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PUERPERAL INFECTION.

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Read before the California Northern District Medical Society.

I have selected puerperal infection as the subject of my paper to-day for several reasons. First: Because it is a disease that requires energetic treatment at the very sign of its approach and, therefore, every practitioner should have the subject well in hand. Second: It is generally considered one of the most dreadful diseases that a practitioner can meet with, because of its heretofore high mortality and of its greater frequency among the young mothers who, in their youth, hope, and love, have just launched out in life to build themselves a home and help to multiply mankind. Third: In my experiance this malady is readily ameliorated if promptly and correctly dealt with in its incipiency.

Knowing this Society to be made up, principally, of general practitioners, it will be my aim to offer you rather a practical than a thoroughly exhaustive paper, and I will, therefore, confine my remarks, in the main, to my own experience in connection with this malady.

Last year, when in Fresno, Dr. Wm. T. Maupin, of that city, told me they were having rather an epidemic of puerperal fever at and around Fresno, and also that he had had over 2,500 confinement cases and among them never one of puerperal fever.

How many labor cases I have attended I do not know, but I had practised medicine some fourteen years before I had a case of puerperal infection. I had become firmly convinced that it was absolutely criminal negligence on the part of a physician to have a case of it in his practice, largely from the fact that I had gone so long in obstetrical work without meeting one myself. However, in 1895, I had my first case, and that year and the succeeding one, I had several others, as did many practitioners in the neighboring towns. At this time even our cows and mares, in many instances, died from puerperal fever.

The exciting cause of this affection may well be described by the one word, infection—infection after child-birth or miscarriage, either at the placental site, through a laceration in the cervix or vagina, or from a pus tube. The streptococci and straphylococci are the pathogenic organisms which are usually found in the tissues and blood.

The predisposing causes are several. The puerperal woman has become plethoric, but the blood is more watery and has a diminution of red blood corpuscles with an increase of the white. There is less albumin, fat, and hemoglobin than in the non-pregnant condition, and an increase in fibrin. The blood vessels in and about the uterus are enlarged, tortuous and elongated, and the pelvic lymphatics are greatly dilated. After labor the parturient canal is liable to be more or less bruised, and lacerations of varying degrees have occurred here and there, all of which conditions are conducive to the ready entrance of germs into the system. Besides all this, up to the moment of birth, we have a normal physiological development. After that the picture changes and we have a physiological degeneration, in which the blood and lymph streams are loaded with the products from the now degenerating hypertrophied muscular tissues and from the detritus.

I have said that puerperal infection is most frequent in the primiparæ, as their labor is usually protracted, their tissues softer, the birth canal narrower and therefore more liable to lacerations, and they require more frequent examinations and manipulations. Besides the septic hands of attendants, we find that infection can be carried from one patient to another, either by physician or nurse. That it can be contracted from any suppurating point about the patient, such as an ozena, boil, or ulcer, or conveyed to the patient by the attendants who may have the same. The zymotic diseases, especially diphtheria and erysipelas, are also grave sources of danger.

I also consider a septic vulva a prolific source of trouble and am, therefore, particular to have the vulva thoroughly washed in a 1:2000 bichloride solution before labor sets in. That is all Dr. Maupin, whom I have quoted above, ever does to his patients to prevent septic trouble. Where I have been engaged to deliver a woman, I have made it a rule to order some bichloride tablets and instruct her how to make up a 1:2000 solution, and upon the first appearance of labor to take a warm bath, after which to wash the external genitalia, especially among the hairs and between the vulva, with this antiseptic solution. This is all that I do as a preventive, except to caution the patient that everything which comes in contact with her body or bed must be scrupulously clean; and by that I mean every cloth, sheet, or pillow case should be boiled before using.

The symptoms are few and, you might say, furious. Usually on the third or fourth day, but it may be as late as the tenth, the patient is taken with a severe chill, followed by a temperature of 103°, 4, 5, or more, a pulse of 120 to 160, and respirations of 28 to 50. The lochia and milk are both greatly diminished, if not stopped entirely. The tongue becomes furred, the appetite leaves, and usually there is more or less tenderness over the uterus. In twenty-four or forty-eight hours this tenderness increases, and there is decided pain in the hypogastric region, or in one or both iliac fossæ. Headache is nearly always present, and if the case is a severe one, stupidity and even delirum supervenes. The temperature has no typical curve, but is usually higher in the evening than in the morning. The skin is hot, harsh and dry, and if the patient goes from bad to worse the tongue is parched and dry and takes on a typhoid look. This is the usual picture of the case.

The pathology of puerperal infection varies greatly, involving, as it does, an inflammation of any or all of the tissues and organs within the pelvic cavity. But, to state it briefly, the pathological condition is that of septicemia produced by an infected ulcer, or a decomposition of tissue situated along the parturient canal, and ultimately resulting in the inflammation of some or all of the mucous, muscular, cellular, or peritoneal tissues of the pelvis, or possibly of the entire abdomen.

From the uncertainty as to the seat of the infection, every case must be thoroughly examined, and this point fully determined before a rational treatment can be instituted. Moreover, discharges from the point of infection should be examined, to determine the kind of bacterium we have to deal with in the given case, as in these days of rapid strides in serum therapy, much may be done in that direction, and more is hoped for.

After a thorough antiseptic vaginal douche of carbolic acid 2½ per cent. bichloride 1:2000, or formalin 1:400, a systematic examination of the vulva and vagina should first be made for lacerations. If such are found, their surface should be cauterized with equal parts of tincture of iodine and carbolic acid, so as to effectually disinfect and seal up the wound. Here a nice question often arises as to whether any lacerations that have been stitched up had not better be reopened and swabbed over. Usually this has to be done, for if they are not infected then, they are almost sure to become so later on.

The next question to decide is whether or not the lacerations already found are the only source of infection. One can readily see that if we have an uninfected uterus and proceed to examine it by the introduction of instruments, we are liable to carry into it septic material and thus enlarge the source of trouble. If it is decided that the laceration is the only seat of trouble, after its cauterization, I introduce into the vagina a small suppository containing 5 grains of iodoform, and order a thoroughly cleansing antiseptic douche, given every three hours, following each one with the placing of one of these suppositories well up to the uterus.

Should it be decided, however, that the seat of trouble is within the uterus, and the onset of the disease has not been very violent, after introducing a speculum into the vagina and taking a glass syringe and attaching a soft rubber catheter thereto, I gently inject into the uterus a 50 per cent. solution of hydrozone, being first sure that the os uteri is well open to admit of the return of the frothing solution. It takes a great deal of time and patience to inject this slowly, and until there is but little or no frothing of the returning fluid. When this is done the uterus is irrigated with sterilized water, slightly carbolized, until the hydrozone is all washed out.

On the other hand, if I have reason to believe that there is some retained and decomposing placenta, decidua, or blood clot, the entire intrauterine surface is systematically gone over with a dull curette, and if it is not possible to remove all that is there felt, I do not hesitate to use the sharp instrument. When this is done satisfactorily the injection of hydrozone and a douche of sterilized water is then proceeded with, as above indicated.

These intrauterine irrigations I used to repeat as often as was necessary to keep the temperature in check (from two to six, or even eight times in twenty-four hours), but our worthy ex-President, Dr. Wallace A. Briggs, of Sacramento, has introduced a new method which rationally appeals to my mind, and which obviates the necessity of the physician having to give the intrauterine injections so frequently himself. I tried this method once at his suggestion, and in that instance it acted so admirably I shall again use it, should the opportunity offer.

Where the uterus is the seat of infection his method is as follows: "After a disinfecting vaginal douche, the patient is put well over in Sims' position and the uterine drain and irrigator [*vide* MEDICAL TIMES, vol. XII, p. 120,] is introduced into the uterus, the uterus irrigated, first with a formalin solution (1:500) and then with pyrozone until effervescence ceases. The patient should now be turned on her back until the uterus drains, and then replaced in Sims' position, and the uterus filled with formalin, alcohol, glycerine solution in the proportion of 1:100:400. The uterine drain and irrigator is left *in situ* and the patient should remain in Sims' position as long as she can without positive discomfort—not less than half an hour in any case. This process should be repeated every four to six hours until either its futility is demonstrated or convalescence is declared."

With the use of this uterine irrigator and drain we can trust the nurse to give the injections at times, and his idea of favoring osmosis from the uterine tissues with the hope of carrying the germs from the deeper structures of the uterus into the antiseptics, and ultimately out of the body, is certainly a good one. It is a case of Mahomet and the mountain.

The general treatment consists in upholding the patient as thoroughly as possible by an easily digested, nourishing diet, the giving of quinine and iron, if well borne by the stomach; and latterly I have been using protoneuclein, with a view of strengthening the leucocytosis of my patient. The neuclein of Vaughan I have not used. The emunctories should be kept active, but the greatest hope we have for a specific remedy is in serum therapy. If we have a case which has gone so long that the mere removal of the source of infection will not cure it—in other words, in which the system has become so saturated with the germs that they are multiplying more rapidly than the patient can destroy them—about our only hope is in an antitoxic serum.

The antistreptocci serum I have never tried, the antidiphtheritic serum I have, and the way the temperature lowered and the disease passed off well reminded me of the melting of snow before the summer's sun.

With a brief outline of a few of the cases I have seen, and a resume, I will close.

CASE I.—The first case I had was in a multipara who had had children very fast. At 32 years of age she had had six children and two miscarriages. She had a rapid delivery and a very severe *post-partum* hemorrhage, which I only succeeded in checking by swabbing the uterus with a pledget of cotton dipped in vinegar. From this she was probably infected, for on the third day she had a chill, followed by a temperature of 105° F., which lowered but slightly at times until she died. I curetted the uterus gently and irrigated with hydrozone and other antiseptics, but my subsequent experiences have taught me that I did not do so often enough, nor at the very commencement of the disease. In the fifth week she was taken with a diarrhea characterized by very copious and watery passages, followlowing each of which she would go into a state of collapse, only to be revived by the subcutaneous injection of a decinormal salt solution. These passages finally became so frequent that there was no help for her and she succumbed to the disease. On *post-mortem* examination the uterus was normal macroscopically, but there were large ecchymoses throughout the entire intestinal tract, being greater in number and size in the colon.

CASE II.—Another interesting case which I had was in a woman who had a salpingitis, and with two of her children it produced a puerperal infection. She got well by persistent intrauterine irrigations and large hot vaginal ones, together with external applications of turpentine stupes, followed in the latter part of the disease by applications of tincture of iodine over the infected tube.

CASE III.—Another interesting case which I saw with Dr. H. M. Kier, of Woodland, was in a woman who had just recovered from a five weeks' run of puerperal fever, when she was taken with the measles, which seemed to light up anew her puerperal fever. Her temperature ranged from 103.5° to 105° F., and had been doing so for a week or ten days previous to my visit. Her face was swollen out of all shape; she was delirious and in a very weak condition. Dr. Kier was irrigating her uterus thoroughly, although there was but little or no discharge therefrom, but he felt it was the safer thing to do. She was being supported in every conceivable way with foods and medicines, but in spite of all this she grew worse rapidly and it looked as if she would die, and I thought she would. I suggested the use of antistreptococci serum, but we had none and could not get any for some days, so I reasoned this way: The case is a desperate one; is going to die if something is not done, and that quickly, too; measles being one of the infectious diseases, like diphtheria, has the power to set up anew the infection in this case; possibly the antidiptheritic serum will have the power to overcome it. I had read somewhere in my medical journals, of puerperal fever cases having been cured by antistreptococcic serum, so, like the drowning man grasping at a straw, I suggested the use of the antidiphtheritic serum. In this Dr. Kier acquiesced, and 1000 units were injected subcutaneously that afternoon. Shortly after the temperature went down to normal and stayed there for nearly twenty-four hours, when it began to slowly climb until it reached 103° F., when 500 units more were given. The temperature again went down and stayed down for thirty-six hours, when it began to rise; 500 units more were given and that was the end of it, the case going on to perfect recovery.

CASE IV.—Mrs. B——, living ten miles south of Davisville, called me a year ago last October, as she had had a miscarriage and was flowing badly. I drove there hurriedly, found she had had a miscarriage at two months, but had not cleansed herself thoroughly, so I curetted the uterus under proper antiseptic precautions, gave an antiseptic douche and left. I called the next day and found her in good condition. In about four days thereafter her husband came to my office and reported that she had a breaking-out on her face, chest and hands. As described to me I told him I thought it was measles, He said she had had measles. I then said it was probably a case of rubeola, or German measles, and having given him some general directions, said if any untoward symptoms arose I would go out there and see her. That day I received a telegram announcing the death of my father at Fresno, so I left town the same evening. Next morning the husband came after me, but not finding me here he called in a physician from a neighboring town, who pronounced the case rubeola. The woman was sick for five weeks, and the eruption involved the entire skin surface. She peeled off in great pieces, some as large as the hand. The skin of the soles of the feet came off in its entirety. On some of the fingers the skin slipped off just as a glove would, and she shed her nails and hair. I was called again to see her on the 18th of May, last. She had an intense general dermatitis, and stated that she had been due to menstruate on the 6th, but did not do so, and that on the 12th she had introduced a catheter into her uterus, causing a miscarriage. She then confessed that she had brought on the previous miscarriage in the same way and using the same catheter. She said she got on well until the night before I was called, when she had a chill followed by high fever, and she broke out with the same kind of rash that she had had after the previous miscarriage. To make a long story short, she had an intense dermatitis exfoliativa, which readily subsided after a curetting of the uterus and irrigations of hydrozone and other antiseptics. Her temperature, at times, ran as high as 104.5° F. I subsequently put her on a uterine tonic and arsenic and she made a rapid recovery.

There are several other cases, all of which got well under the treatment I have outlined above. Believing they would be of little interest to you and having taken up all the time I feel that I should, I will sum up the treatment and close:

1. Every minute after the initial chill is of the utmost value if we wish to save the patient. The very first minute you can reach your patient and remove from her system the source of the poison you should do it, mid-day or midnight. And it must be done thoroughly.

2. Use peroxide of hydrogen (Marchand's) in some form before other antiseptics, for I believe it will penetrate deeper and seek out the germs and destroy them where other germicides simply cover them with a coagulum.

3. If it has been impossible to remove the source of poison early, and the system has become saturated with bacteria, we have the different kinds of serum to fall back on.

4. In cases of infection from diphtheria, and probably from other sources, the antidiphtheritic serum seems to be of great value.

So far as I am able to judge, we cannot hope for a great deal from the antistreptococcic serum as now manufactured and found upon the market, failures in many instances having been reported. Dr. Paul F. Mundé, however, reports three cases which convalesced promptly under the use of the serum.

HEMORRHAGIC SARCOMA OF THE THIGH WITH A LONG LATENCY.

By Douglass W. Montgomery, M.D., and Harry M. Sherman, M.D.,
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There is a general impression that sarcomata occur most frequently in childhood. This is erroneous; for while it is true that sarcomata constitute almost the only form of malignant disease occurring in infancy and childhood, yet the greater number of sarcomata do not occur in that period, but in middle life.

Another peculiarity of sarcomata is the frequency with which they follow a blow or other injury. It cannot, however, be supposed that blows or injuries cause sarcomata, but rather that they start into activity sarcomata that have, up to then, lain dormant. Then, again, a blow may be followed immediately by a rapidly growing sarcoma, or the blow may be followed by a tumor that remains latent for a considerable time before finally assuming an actively malignant character. The latter eventuality occurred in the present instance: a kick from a horse was followed by a tumor that lay a harmless lump in the tissues of the thigh for years before finally becoming actively malignant.

A tall, very robust man, forty-one years of age, consulted Dr. Montgomery, August 12, 1895, on account of a tumor of the right thigh. He said that ten years before he had been kicked in this situation by a horse, and that ever since then there had been a lump there. For a long time this lump had remained very small, then suddenly enlarged, and then once more had become stationary.

When he first sought advice, a flattened lenticular disc about two inches in diameter could be felt lying deeply in the tissues of the inner anterior aspect, and at about the junction of the middle with the lower third, of the right thigh. The skin was freely movable over the tumor, but the tumor itself was immovable on its base. The tumor could be well circumscribed above and below, but was not so well defined laterally. It was fairly firm, smooth and elastic, and there was no fluctuation elicitable. There was no tenderness, but there was a shooting pain radiating downwards, which he had first felt ten days before coming to Dr. Montgomery. He said, also, that he believed the tumor to be growing larger since he had felt those pains.

The patient was just noticeably lame. The circumference of the thigh measured over the middle of the tumor was 19½ inches. The closest questioning failed to elicit any history of syphilis, but the situation was explained to him and he was told that even with no history of lues the accidents of life were such that sometimes tumors like this one were diagnosed as true tumors, when afterwards they turned out to be owing to an unsuspected syphilitic infection. Unguentum hydrargyri was applied locally and iodide of potash was given internally.

He ran along for quite a time with no increase in the size of the tumor, until one day one of those outrageously fat hipped old women, who are such a feature of our city, came sailing into a street car where he was, and let herself plump down on the seat beside him. Her umbrella, held at an angle, struck him directly across the top of the tumor. The blow was exquisitely painful, and the pain continued, and when the thigh was measured a few days afterwards, its circumference over the center of the tumor was 20⅝ inches, an increase of ⅝ inches. It is not to be thought that this injury *caused* the tumor to grow, or even accelerated it, for, from the symptoms, it had been growing before. This blow was exquisitely painful, because the tumor was already filled out and stretched tense by internal hemorrhage; and we all know how tender such a tense sac is.

The pain was now so great that he was even anxious for an operation, which he had previously striven to put off or avoid. On December 14th, 1895, Dr. R. A. McLean, who was requested to operate in the absence of Dr. Sherman, a personal friend of the patient, cut down on the tumor and evacuated a great deal of recent clot, some tissue looking like organized clot, and some calcified tissue. No distinct capsule could be made out. After the evacuation of those masses no tumor was demonstrable and the affection was supposed to be a simple hematoma. Some of the clots were examined microscopically, but nothing but blood clot was found.

Three and one half months after the operation, undoubted evidence of a smooth fluctuating tumor was again found. It lay to the inner side of the lower end of the scar of the previous operation. A hypodermic needle run into it drew off only a little dark blood, but on withdrawing the needle dark blood followed along quickly in its track, and in such a way as to indicate considerable pressure. A second operation was determined upon and was performed by Dr. Sherman on April 1st, 1896.

At the operation the skin overlying the tumor was found normal, the aponeurosis was normal, and then there was beneath this and stretched over the tumor a thin layer of some of the fibers of the vastus internus and the muscle fibers were also normal. The tumor was round, smooth, soft, and about the size of a mandarin orange. Its firmest attachment was on its under side and in the deep portion of the scar of the previous operation. After removal the tumor was seen to be composed of pale, soft tissue that bulged forward when cut into, and there was a small blood cyst in its center. There is no doubt that in a short time more blood would have accumulated in the center of the neoplasm, and that it would finally have ballooned it out and formed a blood cyst with indistinguishable walls like that found at the previous operation. As it was there was plenty of tissue to examine this time, and it was found to be a spindle-celled sarcoma.

Every thing went on well for nearly seven months, when, on October 21st, 1896, a small tumor was made out to the inner side of the scar of the previous operation. This tumor was smooth, adherent below, but with no adherence to the skin. It was about the size of a hazelnut, and was found growing on the outside of the aponeurosis of the thigh muscles in the subcutaneous tissue, and therefore constituted a decided extension of the disease from its original site deep in the substance of the muscle. Two others were found in the substance of the vastus internus at the site of the two previous operations. The largest of these three tumors showed the same inveterate tendency to become hemorrhagic in the center that had distinguished the disease all along. It was then decided to amputate at the hip joint, which was done by Dr. Sherman on October 23d, 1896. No further metastasis was found on dissecting the limb, and there was no demonstrable enlargement of the lymphatic glands either at the saphenous opening or in the groin. This operation was so thorough and went so wide of the diseased region that it was felt one ought to be reasonably certain of a good result.

Dr. Montgomery again saw the patient on November 14th, 1897, in consultation with Drs. Sherman and W. W. Kerr. There was a decided bulging of the chest wall just below the left scapula. No vocal fremitus could be elicited over the lower part of the left side of the chest, and there was dulness both in front and behind over the lower part of the left side of the chest. The breath sounds in this situation were diminished, and there were faint fine crepitant rales at the base of the left lung posteriorly. The pulse was 90 and weak, and the heart sounds were weak. There was no rise of temperature. On awaking in the morning the patient felt as if he would strangle. He had a cough and a good deal of expectoration. The sputum was glairy and streaked with blood, but contained no tubercle bacilli. He had fallen ill in this way three weeks previously, and Dr. Kerr said the dulness in the chest had increased. A diagnosis of sarcomatous metastasis in the left side of the chest was made.

The patient died at 2:45 A. M., January 20th, 1898; a little over two years and five months after he first consulted Dr. Montgomery for the tumor of the thigh, and a little over two years after the first operation.

The autopsy was performed fourteen hours after death. The body was well nourished. The scar of the hip joint amputation was normal, there was no tumor in the stump, and the inguinal and retro-peritoneal lymphatic glands were normal. There were no growths in the retro-peritoneal arteries, veins, or in the receptaculum chyli. On opening the chest cavity, the whole left side of the chest was found full of friable clot. There was no evidence at all of the left lung or left pleural cavity, and only a small piece of tumor tissue could be found posteriorly and low down in the chest. The tumor in the chest had evidently followed its usual course of becoming hemorrhagic.

The right lung was normal except for a small sarcoma on its anterior border. The right pleural cavity was normal. The heart was pushed over to the right side by the hemorrhage into the left side of the chest; otherwise it was normal. In none of the other organs were any metastases found, nor was there anything noteworthy in them. The brain and cord were not examined.

One of the striking peculiarities of this tumor was its inveterate tendency to become hemorrhagic. In the first tumor this was so marked as to turn it into a blood cyst, and so obscure the diagnosis. None of the subsequent tumors in the thigh had a chance to undergo such a marked change because of their early extirpation, but the tumor or tumors in the left lung were so markedly hemorrhagic that almost the entire left side of the chest cavity was filled with a large blood clot.

PHOTOGRAPHY AS A MEANS OF RECORDING CASES.

By H. D'ARCY POWER, M. D., Sacramento, California

Read before the California Northern District Medical Society

The following communication has grown out of my personal experience in case taking, and an increasing appreciation of a photographic record of observed conditions. Every medical work issued from the modern press bears witness to the ever increasing aid afforded to medicine and surgery by photographic methods; but the illustrations therein found are largely the product of expensive apparatus, or the work of professional photographers whom the writers have called to their assistance. The present photographic craze is making the camera a household utensil, and it is to the use of the ordinary 5 x 7, or even 4 x 5 camera, costing from $10 to $30, that this paper has reference. The skill required in their use is small and the expense trivial.

In past years it has been my habit to record cases of tubercular invasion of the lungs, altered cardiac relations, areas of changed sensibility, or other abnormal physical conditions, by means of clinical figure charts, such as those of Luschka. Some months ago having indulged in a 5 x 7 Poco camera for amusement, it occurred to me that more accurate and useful records could be obtained by marking on the skin of the subject the signs that I am in the habit of using to indicate abnormal conditions, such as dots for dulness, crosses for crepitus, lines for pectoriloquy, and then to photograph the same. This had a double advantage; it obviated the necessity of hunting for fixed points, not always easily found, and the subsequent more or less inaccurate location on the chart of the diseased areas, and it also gave the general physical appearance of the patient. Photo. No. 1 [photo. exhibited] is an example of this stage of my "pathographic" evolution. It is better than Luschka's chart, but is defective in not giving any indication of actual size. It is evident that if the true size of any object appearing on a photograph be known, the size of all other objects appearing thereon, and on the same plane, may be deducted by a simple proportion sum.

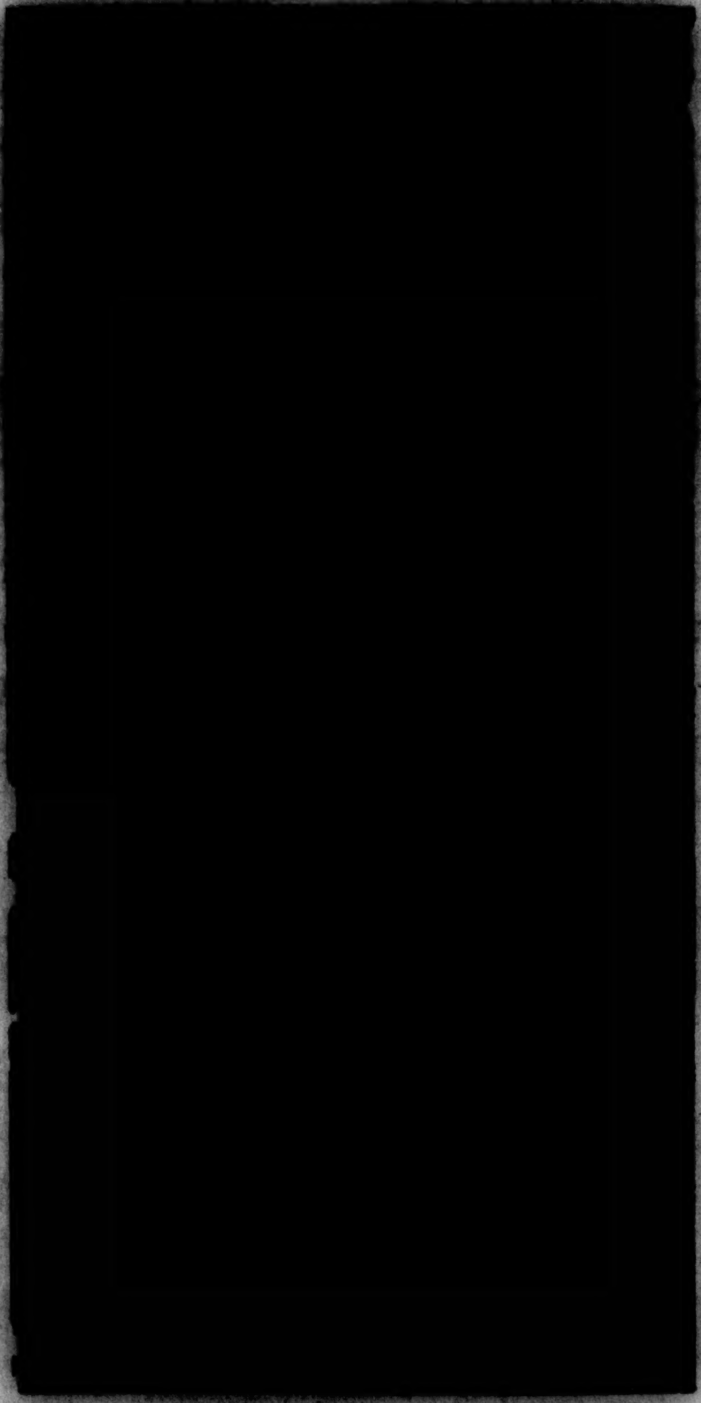

FIG. 1. Showing Method of Recording Surface Markings and Use of Measuring Gauge.

For example, in photograph No. 1 the observed width across the shoulders was 16 inches, on the photograph they cover $2\frac{1}{2}$ inches, required the greatest length of the region of crepitus, which on the photograph covers $\frac{5}{8}$ of an inch. As $2\frac{1}{2} = 16$, $\frac{5}{8} = 1\frac{1}{2}$ inches. Therefore if the actual distance between any two fixed points on the body photographed, be recorded on the print, all other measurements can be calculated. Or, better still, if the patient be directed to hold a foot rule parallel to, and flat on the surface to be recorded, its known, as compared with its photographed measurement, will supply a gauge for all other measurements.

I used this method for some time, and still occasionally use it; but it has two disadvantages. It involves a separate calculation for each measurement required, and with lenses whose peripheral images are untrue the calculation of distances far from where the rule is held will contain a corresponding error. The method I have since worked out, and which it is the chief purpose of this paper to bring to your attention, is free from both these disabilities, and is most simple of application. It is, in effect, to photograph the subject at a fixed distance from the camera, corresponding to the reduction required, as a fourth or an eighth, and then to print over the positive a corresponding reduction of an inch gauge. By this means the picture is divided into a number of inch squares, each of which corresponds to a square inch of body surface. This allows of the direct measurement of all distances, and permits the immediate appreciation of changes in the dimensions of diseased areas, when photographs taken at different periods are compared. Furthermore, as the gauges whereby the scales are printed are made by the same lens that is used to produce the photograph itself, errors due to the lens correspond on gauge and picture, and do not affect the resulting measurements.

It may well be that in these days of many workers this method has already been employed by others, but, if so, it has not come to my knowledge, and is not in any general use. I recently saw an account by Dr. O. G. Mason, of Bellevue Hospital, in the Photographic Annual for 1897, of a method to obtain similar results by photographing through wire screens; but seven foot screens are not very portable objects.

The method I am advocating should find useful applications in other fields than those of pathology. To the anthropologist it ought to be exceedingly useful. The breadth of the face, the width of the orbits, the length of nose, relation of limbs to trunk, and all linear and plane surface measurements are as readily determined on the photograph as on the body. As the planes furthest from the lens must necessarily give a smaller image than the nearer surfaces, it might be objected that errors of measurement would thus arise; an objection that would apply with even greater force to Dr. Mason's method. In practice I have not found these errors appreciable, being but $\frac{1}{50}$ for each inch of difference in focal plane; thus in photographs Nos. 1, 2 and 3 [photographs exhibited] the width across the shoulders, the distance between the nipples, from nipple to clavicle, the greatest width of face, etc., were ascertained by actual measurement on the person, and these measurements accord with those obtained by counting the squares on the photograph.

Photographs thus taken in three positions would have an anthropometric value not often found in the usual collections of ethnological studies. The same would apply to criminology, and an especial value would attach to such photographs in establishing identity, both of criminals and of the subject of life assurance, especially where large policies are involved. I am indebted to Dr. T. W.

Huntington for the suggestion that simulated pain could probably be detected by the comparison of photographs taken at different periods, as it is unlikely that the simulator would always locate his suppositious pains in the same spot.

In the recording of cases its utility will suggest itself to all. Changes of surface configuration, of one-quarter inch or less, according to the scale of reduction employed, are readily discernable, and afford a means of keeping track of the growth or diminution of ulcers, maculæ, alopecia, etc., as well as a record of internal changes of the viscera, for which it was originally devised.

To pass from the principles involved to a description of the details, I would remark that unless the operator is well versed in practical and theoretical photography, a close adherence to the particulars given is essential to success. I do not propose to give any details concerning ordinary photographic manipulations, on which every possessor of a camera is necessarily posted; but the following points require some consideration: namely, the position of the subject, the scale of reduction, the making of the gauges, and the final printing.

Position of the Subject.—Carelessness in this particular will render the record worthless. Two points require attention. (1) To preserve a like position in all photographs, otherwise comparisons can not be made. (2) To take care that the points to be recorded are as near the same focal plane as possible. Identity of positions may be fairly attained by placing the subject against a wall with the arms loose at the side, and taking the photograph at a given point in the respiratory cycle. I generally direct the patient to inflate the lungs, count five, and then hold the breath. This permits of a full exposure of the plate at a fairly normal point of inflation. While good results are obtained simply standing against a wall, better are possible by the use of a gauge and support that I have devised for my office work, and which is represented in figure No. 2.

It consists of an upright 80 inch post, marked with a quarter-inch scale. It is divided by a central slot in which run four movable arms. The highest is an 18-inch stick which, resting on the patient's head, exactly determines the height. A similar rod is placed at the bottom, and being moved up to the crutch determines the relation between total and body length; between these two is a movable head rest and an arm rest. This instrument is placed against the wall, directly opposite my office window, and twelve feet therefrom; it is movable by simply lifting it out of the slot that supports it above and below. By its aid standing or sitting photographs can be taken at distant periods of time under absolutely identical conditions; permitting exact comparison to be made of the resulting prints. From the end of the upper movable bar, I drop a plumb-line which enables me to centre the mid-line of the body, and to determine horizontal distances such as the longitudinal measurement of the head.

Scale of Reduction.—Always take as large a photograph as the plate will allow. With a 5 x 7 it will be necessary to reduce a full length figure one-twelfth. A chest record can well be taken on a scale of a sixth, or even a fourth. To obtain a uniform and given reduction is a matter of the greatest simplicity. Place a foot rule on the wall exactly opposite the camera, and move the latter away until its image on the ground glass exactly covers one inch, using for this purpose a pair of compasses fixed at that distance. Next measure the distance between the front of the lens and the foot rule and make a record of it. Whenever you place your camera at that distance from the surface you wish to photograph, the picture will be on the scale of a twelfth, as one inch is the twelfth of a foot. Now move the camera toward the foot rule until its image covers two inches of the ground glass, and record the distance, which will be that required to obtain a photograph one-sixth of the real size, and so on. These distances can also be determined by calculation based on the focal length of the lens.

Now let us consider the exact mode of taking a photograph where all possible accuracy is required. The subject stands against the upright gauge with his heels touching its base. The lower staff is run up to the crutch and the arm rests placed just to support the elbows. The head rest is adjusted to the neck, and the upper staff brought down just to touch the vertex. From the end of the upper staff depends the

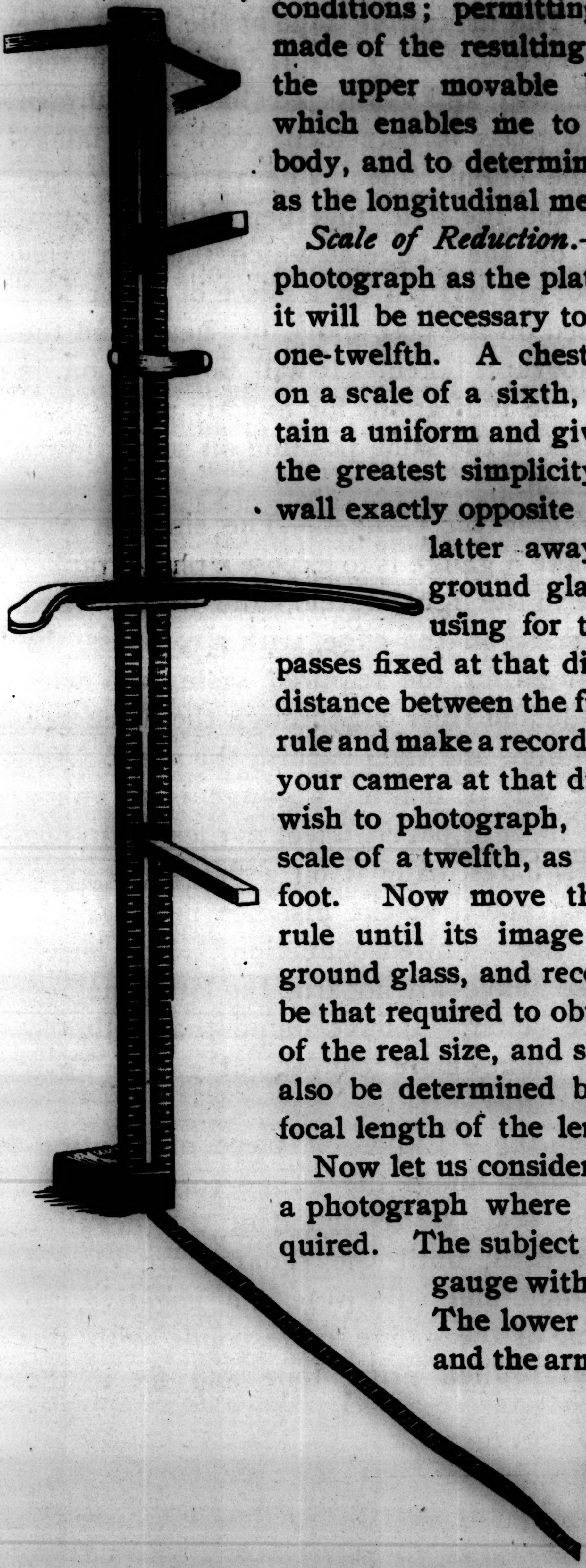

FIG. 2. Gauge Showing Tape Line at Foot Run Out to Camera.

plumb line, and the subject is directed to move his head so that the plumb line bisects his nose. The measuring tape at the base of the gauge is run out the necessary distance for the reduction required, and the camera lens placed thereat, and so directed that a line drawn on the center of the ground glass is coincident with the image of the plumb line. The patient's name, age, and the date, together with the numbers on the gauge at which the four arms stand, are written on a piece of paper and pinned on the post above his head, and the photograph taken. It will now bear on its face the indications for exactly placing the subject in the same position on some future occasion.

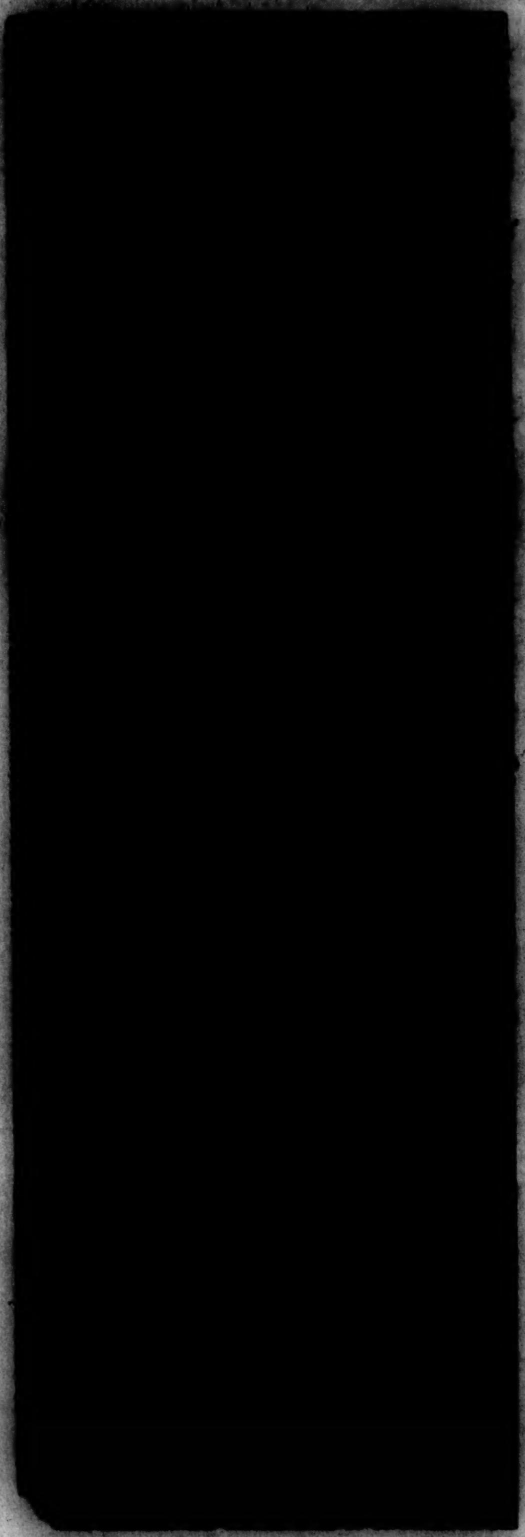

Fig. 3. Lateral View of Subject in Position in Gauge, Showing Adjustments. Also Application of Measuring Gauge.

Making the Gauges.—The simplest way to make a gauge is to expose a photographic plate to the light, develop and fix it; when dry mark on the edge, with a compass, the distances for the required scale, and with a knife and ruler cut through the black gelatine film, and then varnish the plate. Another way of making a gauge is to rule a long sheet of paper, 6 feet x 3 feet, into one inch squares, hang it on a flat surface and photograph it at the distance necessary to give the required reduction. For lenses whose images are not true the latter method is the better. I have found that celluloid films make more convenient gauges than glass plates.

Printing.—Expose a piece of printing-out paper under the gauge corresponding to the scale of reduction of the negative to be used, until the squares are clearly printed, then remove the gauge and substitute the negative, so placing it that the central line of the gauge corresponds with the center of the face and body. Then print, tone and fix in the usual manner.

829 J street.

THE MANAGEMENT OF SHOTGUN WOUNDS, WITH A REPORT OF A CASE.

By J. W. Paul, M.D., Santa Clara, California.

Read before the Santa Clara County Medical Society.

There is, perhaps, no wound encountered by the general practitioner that is so difficult to handle as that produced by a shotgun. Inspection shows an ugly mass of lacerated, powder burnt, and, perhaps, bleeding tissue, containing shot, pieces of clothing, gun wads, and usually a number of fragments and spiculæ of bone.

The first thing is to find and secure if possible, all vessels that are injured. This is not always an easy matter, owing to laceration. The arterial walls being tougher than the rest of the soft tissue, may extend intact for a distance of half an inch or more into the bleeding mass. It is essential, if possible, to tie all vessels before trimming away the lacerated tissue. All tissue, the vitality of which has probably been destroyed, should be cut away, and the wound washed thoroughly with a carbolized solution.

To stop hemorrhage at once is absolutely necessary, but it is better in some cases to clean up the wound and postpone the removal of all debris until reaction has taken place, especially in cases of extreme gravity. Dress the wound with an antiseptic dressing, and let the patient rest under the influence of an opiate during the first twelve or eighteen hours.

In dressing these wounds free drainage cannot be too strictly observed. The exit drain, or aggregation of drains, should be as large as the entrance of the charge. If the charge has passed through the tissues it will drain itself, as the exit of the wound of a charge of shot is larger than that at the point of entrance.

I have found a dry dressing to be much more satisfactory for wounds when the lung tissue is involved. This consists in sponging the wound clean with cotton wrung out of the carbolized solution, then disinfecting by injecting as little peroxide of hydrogen (Marchand's) as will reach all the tissue implicated. Next absorb this with the wet cotton until it is perfectly dry, and dress in the usual manner.

These remarks are a preface to the history of what, to me, was a very interesting case, which I have been requested to report to this Society.

On November 13th, 1897, in company with Dr. Adams and Dr. Smith, I was called to Alviso, the telephone saying a boy had been badly shot. On arriving there about 7 P. M. we found W. P——., a lad of 17, lying on a spring cot with a lot of dirty blankets thrown over him. He was pale from loss of blood and fright. His shirt sleeve and left side were saturated with blood. On uncovering the shoulder we found a wound about two inches in diameter, a little external, to the center of the left clavicle, and including that portion of the bone, filled with a mass of clothing debris to its full depth. After consultation we decided not to attempt to dress the wound there as there were no clean vessels in which to heat water, and the surroundings were decidedly septic. We trimmed away the blood-stained clothing and applied a liberal dressing of iodoform gauze and cotton, more to shield the wound than on account of hemorrhage, as there was very little external bleeding at this time.

He was then placed on a mattress in a spring wagon and taken to his home in Santa Clara. Here we removed the temporary dressings and attempted under an anesthetic to clean the wound and trim away the fractured ends of the bone. Incisions were made along the line of the clavicle. The soft tissue and periosteum were pushed back and the ends sawn off, saving as much of the bone as possible. We removed pieces of shirt, undershirt, hunting jacket, gun wads, and in all, at different times, about two hundred and twenty No. 4 shot. We did not succeed in perfectly cleansing the wound the first dressing, as the patient was suffering so much from shock, and the heart was becoming tumultuous and weak. A rubber drainage tube was passed from the wound through into the lower part of the axilla and one through as close to the superior border of the scapula as was possible, and any further attempt to cleanse the wound was deferred until the next dressing.

The following day, when the dressings were removed, we found there had been considerable hemorrhage externally, and the lad also coughed up quite a little blood. At this dressing we removed the rest of the pieces of clothing, a number of shot, two of the three gun wads and several spiculæ of bone. It was now seen that about three inches of the clavicle and all of the coracoid process except about one inch of the tip had been carried away. The muscle and periosteum was torn from the supra-spinatus fossa and the bone shattered. An irregular hole penetrated the scapula at this place, and a drainage tube was now passed through this hole. The spine of the scapula was shattered two thirds of its length and denuded of its periosteum. The subscapular fossa was uncovered three inches down from its superior border. The apex of the lung was destroyed, showing a surface three inches in diameter, through which bubbles of air came freely and the blood was entering the bronchial tubes. All spiculæ of bone were cut away at the different dressings and a channel cut through the scapular spine to admit of freer drainage. The wound was washed with carbolized boiled water every day until the fifth, when I found the plural cavity filling with the discharge and irrigating solution and the temperature at 104° F. It was here I decided to use the dry dressing mentioned in the first part of this paper. One day after using this the temperature dropped to 100° F., in the morning and rose to 101° that evening. The pulse varied from 80 to 100. The patient was comfortable, only at times complaining of the liquid diet. The ends of the resected bones now began to heal over, the soft parts were healthy and the wound had closed to about one half its original size. Everything indicated a good recovery until the eighteenth day, when an accident suddenly put an end to all our prospects.

The nurse had left a pile of loose cotton on the floor of the hall, which she had saved from that used in dressing the wound, when the lighted head of a parlor match ignited the whole mass. The patient, who was very much frightened at the blaze, screamed for help and got up and out of bed. This started a severe hemorrhage, both from the wound externally and through the lung. It was necessary to dress the wound three times in twenty-four hours before I was able to control it. From that time on his pulse ranged from 120 to 150 and it became weak and thready. The temperature ranged from 97° F. to 103°, and he was delirious a great deal of the time. The lung tissue contracted so that a considerable space was observed between the pleural surfaces. The stump of the lung apex filled with calcareous nodules until it was almost a solid mass, and just two months lacking two days from the day of injury the patient succumbed.

The subclavian artery was uninjured, and no large vessel was involved. The largest, I think, was the supra-scapular. Paralysis of the muscles indicated a cutting of the cord of the brachial plexus formed by the union of the eighth cervical and first dorsal nerves. The only motion possible was by the muscles of the hand supplied by the median nerve.

DEPARTMENTS.

OBSTETRICS, GYNECOLOGY AND PEDIATRICS.

By WALLACE A. BRIGGS, M.D., Sacramento, Cal., and
WM. FITCH CHENEY, B.A., M.D., Adjunct to the Chair of Obstetrics and Diseases of Women and Children, Cooper Medical College, San Francisco, Cal.

The Treatment of Uterine Retroversions.—DR. JAMES N. WEST, writing under this caption (*Am. Gyn. and Obst. Jr.*) says: (1) A uterus freely movable and free from inflammatory action, a properly-fitting pessary is called for. (2) Adherent retroversion with acute inflammation, rest in bed, hot vaginal douches, foot of the bed elevated, boroglycerine tampons. After subsidence of inflammation, packing vagina with lamb's wool covered with vaseline. Where packing with lamb's wool fails to break up adhesions, ventral fixation or intra-abdominal shortening of the round ligaments—the former preferred. That the anterior and not the posterior face of the fundus uteri should be attached to the abdominal wall. That the most frequent mistake is attaching the uterus too high on the abdominal wall. The writer thinks that Alexander's operation has a very limited field of usefulness and notes the following unpleasant sequelæ: Hernia, return of retroversion, neuralgia and other pains about the inguinal canals, dragging and aching pains through the inguinal regions and elsewhere.—*Post-Graduate.*

Development of the Special Senses.—All observers upon the mental condition of children agree that most of the special sensations are almost absent at birth, and develop rather slowly during infancy. It is certain that the infant at birth is quite unable to see. Impressions made upon the retina seem to be so vague as not to enter into the consciousness of the child. It would seem that few children recognize objects by sight before the end of the first month. Ideas of distance do not develop until a considerable later period. The child may be frequently seen to grasp at objects far beyond his reach, and he is usually very slow in learning to judge of comparative distances. Color-blindness is the normal condition of the infant. While bright colors will attract the eye of an infant, he does not learn to distinguish them so that he can pick them out with certainty until after the end of the second year. Hearing is also very slow in its development. It seems probable that the new-born infant does not actually hear sound. Certain sounds, like the slamming of a door, may cause the child to start, but he evidently *feels* them rather than *hears* them. Localization of sounds develops to a certain extent very early in some children. By the tenth week they have been observed to turn the head in the direction of a distinctive sound. The child learns very early, in limited degree, to understand the meaning of certain sounds. Hearing being one of the earlier of the senses in its development, and the child being so dependent upon it, the backward mental condition of the congenitally deaf child is readily appreciated.—*Archives of Pediatrics.*

The Infective Theory of Rickets.—MERCOLI (*Gazz. degli Osped. e delle Clin.*) again draws attention to his experiments and observations on this subject. He believes that rickets is due to infection from the presence of streptococci and staphylococci. These organisms are constantly found in the mouths of children and the mammary ducts of nursing women, and are swallowed. As long as the alimentary canal is healthy nothing happens; but if this is out of order from catarrh, dentition, etc., and if in any way these organisms find their way into the blood and are localized in all the organs, but especially in the parts of greatest functional activity, the disease is produced. In the infant these are the nervous system and the epiphyseal ends of the bones; hence the symptoms in rickets. The bone lesions are considered by the author to be examples of chronic osteomyelitis of a special type.—*British Medical Journal.*

SURGERY AND ANATOMY.

By T. W. HUNTINGTON, B.A., M.D., Surgeon Southern Pacific Company's Hospital, Sacramento, Cal., and GEO. B. SOMERS, M.D., San Francisco, Cal.

Ulcer of the Stomach.—In the Cartwright lectures, KEEN, in speaking of operative treatment, says: "Practically it will be seen that almost every case of partial gastrectomy for non-perforating ulcer has been followed by success. This fact, it seems to me, should determine us, in cases of gastric ulcer which do not recover within a reasonable time by medical means, to do a partial gastrectomy, especially in view of the dangers, first, of malnutrition from the presence of the ulcer and consequent constant vomiting; secondly, of the impairment of health by the constant pain; thirdly, of the great possibility of serious repeated and sometimes fatal hemorrhage; and fourthly, of the danger of malignant degeneration of the ulcer. I would by no means recommend indiscriminate celiotomy and partial gastrectomy, but that it should be performed more frequently than has thus far been done. 'The danger to life from gastric ulcer,' says Mikulicz, 'is at least not less, but probably far greater than the danger of a complete modern operation.' When the ulcer is once excised a gastrorrhophy closes the opening, and all of our experience in modern gastric surgery shows that suture of the stomach is, in the vast majority of cases, a safe operation."—*New York Medical Journal*, June 4, 1898.

A Comparison of Sterilization Methods.—The following is a summary of methods adopted in England, Germany, and France: *Sterilization of Instruments:* The English school requires immersion for two or three hours before operation in a 1:20 carbolic acid solution. The German school requires boiling for five minutes in 1 per cent. solution of carbonate of sodium. The French school includes prolonged boiling in a half per cent. carbonate of potassium solution, dry heat, and a variety of other methods. *Skin sterilization*, English method: This includes shaving, scraping, thorough washing with soap and a mixture of 1:20 carbolic acid lotion, containing one part in 500 of corrosive sublimate in solution, saturation of the surface with turpentine, and then again thorough washing with soap and the above mixture, employing a nail brush—a five minutes' performance. German method: This requires shaving, scraping, washing and brushing with soap and warmest possible water, then drying with sterile gauze, saturation with 80 per cent. alcohol and brushing with 1:2000 sublimate solution. French method: This is accomplished by shaving, scraping, washing and brushing with soap and sterile water, saturation with ether, then brushing in a 1:2000 sublimate solution. *Sutures and ligatures:* English school: Silk is kept for a few days in 1:20 carbolic acid solution. Catgut is soaked in the same solution for at least a week. German school: Silk is sterilized by boiling, first in filtered water, then in antiseptic solutions, and finally steamed in the autocleve. Catgut is sterilized by dry heat. *Dressings*', English school: Gauze is impregnated with antiseptics. German school: Gauze is sterilized by ordinary steam (low). French school: Gauze is sterilized in autocleve (high steam).—*Hot Springs Medical Journal.*

Disinfection of Hands.—This subject, which is of such great importance in clinical surgery, has been carefully studied by WEIR, whose investigations led him to the following conclusions: (1) That the solutions of corrosive sublimate are unreliable. (2) That such disinfection is far best applied, and in order named, by the use of nascent chlorine, alcohol, or potassium permanganate. (3) That chlorine is satisfactorily evolved by the conjoined use of moistened chemical chlorinated lime and crystalized sodium carbonate. (4) That of these three procedures, the chlorine treatment is least hurtful to the hands, alcohol the most trying. The author has devised a simple, easy and inexpensive, yet efficient method of obtaining the sterilization by nascent chlorine. After the usual scrubbing with soap and water, and the use of green soap, and cleansing the periungual spaces, one or more large crystals of carbonate of sodium (washing soda) are taken in one hand and covered with about a tablespoonful of bleaching powder (chlorinated lime), and enough water is added to make a thin paste which at first feels warm, and from which fresh chlorine gas comes. This is rubbed for two or three minutes over the hands, nails, and forearms until a creamy paste is formed, or until the sodic crystals impart a cool sensation, or until the rough grains of bleaching powder have mostly disappeared, when the hands are washed in sterile water.—*Boston Medical and Surgical Journal.*

Treatment of Fractures.—Dr. W. L. Estes, in an article on the treatment of fractures, in the *International Journal of Surgery*, says: (1) Unless a fragment is threatening to break through the skin the fracture should never be reduced except by the physician, and then only when apparatus is at hand to keep the parts in permanent apposition. (2) When carrying an injured person the bearers should not keep step, as the jar to the wounded part is much greater. (3) Strychnine for shock, morphine for pain, but no alcohol. (4) Always give anesthetics for reduction of a simple fracture. It is better and easier to reduce and set compound fractures without anesthesia. (5) It is very rarely necessary to make a patient go through the double agony of temporary and permanent setting of the broken bones. (6) In simple fracture, gentle rubbing of the ends will assist in getting rid of shreds of tissue which are, invariably, caught there. (7) Nowadays a surgeon will rarely be satisfied that a bone is properly set until verified by the X-rays (8) Plaster splints, preferably plaster of Paris, are surely the best apparatus when they can be applied. (9) Ambulant treatment is coming more into vogue. No simple fractures require constant confinement to bed, except of the innominate and upper third of the femur. (10) It is not necessary, and it is sometimes very harmful, to wait for swelling to disappear before putting on a permanent dressing. (11) A well applied splint, with good apposition of fragments, should not be removed too early. It is not necessary to apply massage early, in ordinary cases. (12) Proper time for massage is about two or three weeks after fracture of upper extremities, and four or five weeks for lower extremities, if the bones are slow to unite firmly.—*Northwestern Lancet.*

The Position of the Appendix.—In some 500 autopsies personally conducted, I paid considerable attention to the position of the appendix. The standard of position of the appendix is its relation with the right psoas muscle. In 78 females: (1) The appendix was in the pelvis 41 times. (2) The appendix rested on the psoas 18 times. (3) The appendix rested on the right of the psoas 18 times. (4) It rested among the small intestines once. (5) It possessed adhesions 40 times. In 217 males: (1) The appendix was in the pelvis 94 times. (2) It rested on the psoas 66 times. (3) It rested to the right of the psoas 45 times. (4) It rested among the small intestines 4 times. (5) It possessed adhesions 134 times. (6) It was non-descended once. These tables show not only a variable position of the appendix, but also a sexual difference as to the relation of the appendix with the psoas and the pelvic cavity. One will note that the appendix in males is much more closely related to the psoas than it is in females.—Byron Robinson in *American Journal of Surgery and Gynecology*, June, 1898.

Irrigation with Salt Solution.—Dr. Hunter Robb says: "I have used salt solution for irrigating the abdominal cavity for the past eight years, and for the last three years I have left in the abdominal cavity from 300 c.c. to several liters of salt solution at a temperature of 112° F., after every abdominal operation, when not employing drainage. From observation of my cases I am convinced that the procedure undoubtedly diminishes the shock which generally follows a serious operation, and I also believe that it often diminishes the thirst of which patients so frequently complain after such operations."—*Columbus Medical Journal*, June 7, 1898.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

By Wm. Ellery Briggs, M.D., Sacramento, Cal.

Continuous Sterilization of Knives and Other Instruments for Ophthamalic Use.—Dr. A. J. Lippincott has found by experimenting with various means of continuous sterilization of instruments that cutting instruments can be kept indefinitely in a 20 per cent. solution of formal containing 2 or 3 per cent. of borax without injury to the edge of the knife. Many other solutions were tried, but none were found that did not have some injurious effect upon the edge of the knife—even the constant exposure to fomaldehyde gas caused corrosion. This solution acts upon German silver and aluminum handles, but other handles are not injured. The practical details of the method are as follows: Immediately after each operation the instruments are wiped with wet cotton and placed in a tray containing a weak borax solution. From this tray, at the end of the operation, the edged instruments are transferred to steel boxes with numerous perforations in the sides. The boxes are then dropped into a wide-mouthed specimen jar (a common fruit jar will do) containing enough of the solution to cover them thoroughly, where they remain until the next operation. The boxes hold as many instruments of each kind as are likely to be required in any one day. When the eye is being cocainized, the boxes are lifted out of the specimen jar by means of a sterilized hook, and suspended for a moment or two to let the fluid drain off. They are then placed in a small tray containing a weak sterile borax solution. From this they are transferred to a larger tray containing some of the same solution, from which they are lifted, when required, by means of the hook, and placed on an aseptic towel. Each instrument, before it is used, is wiped with a bit of cotton which has been boiled in a weak borax solution. This wiping is for the removal of any film which may possibly have adhered to the blades. This is also a good method of keeping hypodermic needles and suture needles always threaded. The threads are wound on glass or steel spools.—*Archives of Ophthalmology*.

The Restoration of a Deflected Nasal Septum.—Dr. Beaman Douglass describes an operation for restoration of deflection of the nasal septum which has been very successful in his hands. Before operating upon the septum any pathological condition of the turbinates, or of the septum, that may need correction should be attended to. Before the patient is etherized the nose should be douched with a solution of normal salt, to which peroxide of hydrogen (1 to 0.50) may be added. An examination with a well-oiled finger will determine the convexities and concavities in the septum, and will show the lines where it has been previously bent, or where fracture has taken place. It is of great importance, when the finger is searching for deflections, that it should ascertain whether the triangular cartilage joins the superior maxillary ridge, or whether the cartilage has been deflected, or fractured, or displaced from the ridge. The operation is done by introducing a specially designed spear knife to the posterior extremity of the deflection in the obstructed side. With the little finger in the opposite side the knife is turned and made to perforate the septum. A second knife now takes the place of the spear knife, and is drawn forward with a slight sawing motion along the ridge of convexity until it reaches a point anterior, which is not deflected. If more than one ridge exist, they should each be incised from their most remote point. If a deflection from the superior maxillary ridge exists it should be treated in one of two ways: If the deflection at the floor of the nose consists of a displacement of both the bony ridge and cartilage, an attempt should be made to break the bone free from its improper attachments by the forceps. If the bony ridge is not dislocated with the cartilage, but if, what is more frequently the case, the cartilage is slipped from its articulation and obstructs near the floor of the nose, it is a deflection of the cartilage, and should be treated as such. The next step is the destruction of any elastic bands which may exist as the result of the old fracture. These adhesions should be thoroughly broken up by introducing the blades of the forceps on either side of the septum, and quite forcibly twisting the septum with a rocking rolling motion until all adhesions are thoroughly destroyed and the cartilaginous septum is freely movable. The third point of importance is the bending of the septum away from the side which has been obstructed. This causes overlapping of the cut edges, and is done by introducing the finger into the obstructed side, the overlapping occurring on the concave side. The bony septum should be explored, and if there are prominent deflections they should be broken up by the forceps. The specially made vulcanized rubber splints are now introduced in both sides. The patient should be kept in bed for 24 hours, and the splint should not be removed for 48 hours unless there is pain, headache, swelling of the nose, or secretion which cannot be removed by washing. During the first 24 hours the nose should be irrigated twice daily with a hot normal salt solution, or with a mild antiseptic solution. At the first removal of the splints the septum should be examined, and if not in correct position it should be carefully replaced. After four days the splint may be left out of the unobstructed side. The splint should be removed and cleansed from the other side daily and the nose cleansed for one week, and later once every other day for three weeks when it may be left out.—*New York Medical Journal.*

The Roentgen Ray in Ophthalmology.—DR. J. MACKENZIE DAVIDSON gave a demonstration of the employment of Roentgen rays in ophthalmology at the recent meeting of the British Medical Association. The author had used the rays in 41 cases of foreign bodies in the eyes, with satisfactory results. His method was based on getting the three coördinates of any point; if the three coördinates are found the point could be ascertained. In the apparatus two knitting needles—one horizontal, the other vertical—were used as two of the planes; the photographic plate made the third plane. The patient's head was fixed in the apparatus, and he was directed so to look that his visual axis was parallel to the horizontal needle. A loop of wire was previously fixed to the patient's lower lid by sticking plaster, the point of wire projecting upwards and forming the landmark from which the position of the foreign body in the eye is calculated. A Crook's tube was placed on a sliding scale and two plates were taken, the tube being moved forward 6 cm. for the second exposure. The two photographs thus obtained could be placed in stereoscopic relief. The tube used must emit the light from a very fine point, and the exposure must be short—

about one minute. By this method one can see that a foreign body is so far behind and so far to the right or left, as the case may be, of the point of lead wire fixed on the patient's lower eyelid. His measurements had proved to be correct in all cases that had been operated on, and very satisfactory results have been obtained. Some of the foreign bodies were extremely minute. At the same meeting **Dr. E. Treacher Collins** reported a number of cases in which the foreign body was located by the X-ray, and were removed by the electromagnet. Dr. Collins' experience has led him to formulate the following conclusions: (1) The X-rays enable us in doubtful cases to determine the presence or absence of a metallic foreign body in the eye. With a good apparatus properly used his last case shows that a piece of metal less than a millimeter in diameter can be detected in a skiagraph. (2) The exact position of a foreign body in the eye can be located by Dr. Davidson's method. This allows deliberate planning for the removal with a minimum amount of disturbance of the tissues of the eye (3) The same method allows of the exact size of an invisible foreign body being ascertained, and the size of the incision for its removal being determined. (4) Dr. Davidson's method enables us to say whether or not a foreign body which has entered the eye has passed through it into the orbital tissue or remained in the eye. (5) The presence or absence of more than one foreign body is shown by its use.—*British Medical Journal.*

DERMATOLOGY, SYPHILIS AND VENEREAL DISEASES.

Gonorrhea, Secondary.—It is generally supposed that gonorrheal arthritis, iritis, pericarditis, inflammation of the tendon-sheaths, etc., are caused by the entrance of toxins of the gonococcus into the circulation, and the possibility of the emigration of the gonococcus itself is generally overlooked. Affections of the calcaneum, inferior maxilla, tibia, and sterno-clavicular articulation are usually considered syphilitic, particularly if they yield to treatment with mercury and the iodides; and cures may be effected by mercurial treatment in cases of this character that have never had syphilis, and that are purely gonorrheal. Inunction of the subcutaneous injection of corrosive sublimate in conjunction with baths at a temperature of 102° to 104° F. usually affords favorable results. The temperature of the rectum soon rises to the same degree as that of the bath, and the gonococcus is thereby destroyed by the rise in heat throughout the entire economy; but care must be had in the use of the bath if the patient has endocarditis. Immobilization and injection of iodoform glycerin are to be recommended in articular affections. Gleet, when present, is preferably treated by medicated irrigations. **Schuster.** *Jour. de Méd. de Paris.—Monthly Cyclopedia of Practical Medicine.*

Treatment of Neurotic Eczema.—In an article upon this subject *Journal American Medical Association*, **Dr. L. Duncan Bulkley** offers the following suggestions: A few words may be added in regard to the attempt to give relief to the itching and securing sleep in neurotic eczema, by the administration of internal remedies, hypnotics. While the eruption is in an aggravated condition it often seems almost impossible to effect much by this means. Opium and its preparations only aggravate the itching, and if sleep is secured it is of an entirely unrefreshing character. Codeine seems to be the least injurious of them all. Sulphonal and trional in large doses will sometimes be effective, but are often followed by further nervous exhaustion, in the end aggravating the complaint. Phenacetine in full doses, repeated in an hour or so, will sometimes prove most effective, and antifebrine, with hot water and a little whisky, will often secure refreshing sleep; in milder cases urethan in one gramme doses is effective. Tincture of gelsemium, given in repeated and increasing doses every half hour, has in some instances proved most serviceable in the author's hands, as has cannabis indica. The bromides have relatively little effect, although when combined with a very small dose of morphine and aconite have at times proved very valuable. The diet must always be carefully directed. The one article which contains the elements necessary to nourish the nervous system and proves of the most signal advantage is milk, if properly taken. This should not be used at all with meals, nor after or in connection with the least particle of food, otherwise it undergoes caseation and may embarrass the liver, which is too often at fault in these cases. The author's plan is to have the milk taken warm, pure and alone, one hour before each meal, and also at bed time, if sufficient time has elapsed for the stomach to be perfectly empty, which is at least four hours after a hearty meal. When the digestion is sluggish, and the milk meets the late products of digestion, it is curdled, and then its digestion requires some considerable time and we do not get the benefits desired. But if it can be taken on an absolutely empty stomach, when the alkaline tide has already set in, it is absorbed almost immediately and affords a refreshment to the whole system, including the nerve elements, which can hardly be obtained in any other way, and which must be observed to be thoroughly appreciated. The local treatment should be soothing and protective, and the mildest applications should be made first. Zinc ointment with 1 or 2 per cent. of carbolic acid or creasote, or with 5 to 10 per cent. of ichthyol, or tincture of camphor, is always a safe and generally beneficial dressing, if well and thoroughly applied. But to be of service it should be kept thickly applied, spread on lint in most places and bound on firmly. In the acutely inflamed, and especially in the erythematous forms of the eruption, there is nothing better than the well-known calamine and zinc lotion, freely sopped on many times in the day. Ichthyol in watery solution, 10 to 20 per cent., freely bathed on the part, often gives great relief, or if the skin is too dry it may be used in oil in the same strength. On more chronic patches the permanganate of potassium, 2 per cent. solution in water, painted over the part will sometimes arrest the itching very well; it may either be used alone, or the calamine and zinc lotion may be sopped on after the surface has dried, or an ointment may be applied if the skin is at all hard. In the erythematous eczema of the face a tannin ointment, 1.95 to 3.9 grammes to the 31.2 grammes with 2 per cent. of carbolic acid, is effective; a mixture of camphor 1.95 grammes to 31.2 grammes of zinc ointment also forms a good antipruritic. In still more chronic states the tar and zinc ointment, as recommended by the writer many years ago, when thickly spread on lint and bound on, will often serve admirably to control the itching. The use of very hot water for a brief application, followed by an appropriate ointment, should never be forgotten. In old cases of eczema of the scrotum the effect of this treatment is sometimes very remarkable. Menthol will often prove a valuable addition to ointments, in the strength of 2 to 4 per cent., with about half as much carbolic acid, which latter serves both to heighten the antipruritic effect and also to overcome some of the chilly sensation caused by the menthol.—*Clinical Journal.*

Treatment of Gonorrhea by Ointments.—PITRUZZELLA (*Giorn. Ital. delle Malattie Veneree e della Pelle,*) has tried this form of treatment in 60 cases of gonorrheal urethritis in the male. All were chronic cases except 7, of which 2 were acute and 5 subacute. The results were as follows: 42 cases were cured, 9 relieved, and 9 unchanged, including among the latter the 2 acute cases and 1 of the subacute. The drugs tried were acetate of lead, sulphate of copper, nitrate of silver, and ichthyol. The basis was lanolin mixed with olive oil to a creamy consistence, and applied on a steel sound. The duration of treatment was from twenty-two to forty-one days. The author recommends this treatment in chronic but not in acute cases.—*British Medical Journal.*

MATERIA MEDICA AND THERAPEUTICS.

By WM. WATT KERR, M.A., M.B., C.M., Professor of Clinical Medicine, University of California, San Francisco.

Formaldehyde Disinfection.—SCHLOSSMANN (*Berl. klin. Woch.*) says that there are two chief methods of carrying out this disinfection. In Trillat's method an attempt is made to prevent the formation of polymers of formaldehyde by adding calcic chloride, whereas in Schering's apparatus para-formaldehyde is converted into gas, and this is again changed into formaldehyde by means of the water produced by the burning of a certain amount of spirit. The probability is, however, that in both methods the greatest part of the formaldehyde escaping into the air is converted into polymers. In the method introduced by the author and Walther, polymerization is prevented by the use of hydroscopic substances, and especially glycerine. Lingner has constructed an apparatus consisting of a vessel in which the water is boiled. The steam rises into a reservoir which contains 40 per cent. formaldehyde and 10 per cent. glycerine. This mixture they term glycoformal. From this reservoir four pipes pass out into the room. In this way the room can be quickly filled with a mixture of formaldehyde steam and glycerine. A room of 60 cm. is so filled with vapor in ten minutes that an electric lamp placed in the center is no longer visible. All microbes are destroyed in three hours at the latest. The advantages claimed by Schlossmann are the following. (1) The sterilization is absolute. (2) The closure of all cracks and clefts is not necessary. (3) The procedure requires only three hours. (4) There is no danger of explosions (5) The method is cheap. (6) The glycoformal vapor is heavier than air and therefore sinks; and (7) the total disinfectant powers of the gas are obtained. The windows are thrown open for half an hour after the disinfection. Liquid ammonia is then placed in the room in an amount proportioned to the formaldehyde used. The windows are again opened and thus all smell is got rid of. This method of disinfection can be carried out by the unskilled. Hess made the bacteriological investigations for the author —*British Medical Journal.*

Serumtherapy in Pulmonary Tuberculosis. — MARAGLIANO (Genoa) summarizes his conclusions on this subject as follows: A period has now been reached in the history of medicine when it no longer seems rash to consider the possibility of using serumtherapy against tuberculosis. The presence of tuberculous antitoxins in the blood of animals into which the poison of tuberculosis has been injected is certain. The most active tuberculous toxins are those derived from watery extracts of Koch's bacilli; these are neutralized in animals by the antitoxin contained in the blood of animals which have received injections. The serum which contains the antitoxin is harmless for animals and for human beings. The serum can in certain conditions bring about a lasting clinical cure of human tuberculosis. The use of this serum is justified: (1) By the action of the serum against the poisons, and, perhaps, against the bacilli, of tuberculosis. (2) By the analogy of the therapeutic process due to the serum with the defensive processes originating within the organs infected with tuberculosis; this analogy is shown (*a*) by the presence of antitoxin in the blood of a healthy human being; (*b*) by the production of the antitoxin in a human being who has been injected with the tuberculous poisons; (*c*) by the presence of the antitoxin in the organism of patients in whom spontaneous recovery from tuberculosis takes place. (3) The favorable action of the serum is shown clinically in the human subject: (*a*) by the fall of temperature; (*b*) by the disappearance of the bacilli; (*c*) by the cure of the broncho-pneumonic foci. Landouzy recalled the experiments of Richet and Héricourt, who injected dog's blood into the peritoneal cavity of rabbits inoculated with cultures of avian tuberculosis. The mortality in rabbits so treated was 17 per cent., as against 55 per cent. in "controls." Afterwards Bertin and Picq, and subsequently Bernheim and Lépine used goat's blood in human beings with some success. Bouchard showed that the blood serum has the same immunizing and therapeutic properties as the whole blood. It was found, however, that neither the dog nor the goat which had been supposed to be immune in regard to tuberculosis was really so; it was only a question of degree. To make a true serumtherapy of tuberculosis possible it was necessary in the first place to find a means of producing a truly anti-tuberculous serum; for this purpose it was necessary to find a means of surely vaccinating animals against tuberculosis. Landouzy reviewed at length the efforts towards this end made by Maragliano, Behring and others, concluding by affirming that up to the present no anti-tuberculin had yet shown itself constantly and adequately victorious either in man or in animals. As regards the specific treatment of tuberculosis, he said, we are still only in the period of hope. But even if a preventive and curative anti-tuberculous serum were found, more must not be looked for from serumtherapy than it can do. To expect that it will suppress bacillosis, cure tuberculous infection, and repair parabacillary inflammation is to expect more than will probably ever be accomplished by the nearest approach to a specific treatment that will ever be discovered. The only chance of serumtherapy doing any real good is to use it in the very earliest stage of the disease If a really effective serumtherapy were found to-morrow it would not take the place of hygienic methods; the regulated "phagotherapy" and "aërotherapy," by which the best cures are at present brought about. Whatever progress is made in serumtherapy, tuberculosis will always be more easily prevented than cured. Landouzy concluded with an eloquent peroration, in which he denounced the apathy of the authorities in France in regard to the repression of tuberculosis, absolutely nothing, he said, being done to check its spread except in the army; and even in the army tuberculosis was in 1895 accountable for a morbidity of 7.03 per 1,000 and a mortality of 1.14 per 1,000; the total loss caused by the disease, counting deaths, invaliding and rejections being 10 per 1,000.—*British Medical Journal.*

Massage in the Treatment of Heart Disease.—The immediate effect of massage is to increase the flow of blood through the part masséed. The pressure alone empties the tissues and makes way for fresh blood, but, through reflex influence on vaso-motor centers the skin is flushed, the vessels in the muscles receive a larger amount of blood, and the flow through the manipulated tissues is greater for some time subsequently. Accompanying this there is a fall of general blood pressure and diminution; occasionally acceleration of the pulse if the manipulation has produced a deep muscular stimulation. Where the skin is masséed the blood pressure is raised. By the increased flow of blood through the tissues waste matters are rapidly removed, the number of red corpuscles in the blood is augmented, and tissue respiration is increased, or, in other words, the tissues have a greater avidity for oxygen. The lymph stream is likewise accelerated. The heart, like all other tissues of the body, participates in the benefits that must arise from the improved nutrition, but there are mechanical effects on the heart which are of great value in the treatment of some cases of cardiac disease. The emptying of the capillaries and the accelerated flow through the veins diminishes the resistance to the contraction of the left ventricle, consequently, when the cardiac muscle is weakened by disease, or is yielding under the strain of valvular lesions, so that the overloaded capillaries and veins present the symptoms of a failing heart, massage will frequently relieve or mitigate these distressing conditions, and at the same time husband the resources of the cardiac muscle, so that time is given the heart to recuperate and resume the proper discharge of its function. In the Schott treatment massage is associated with resistance movements and baths. The patient performs certain movements against resistance supplied by the fingers or hand of the physician, and they must be regulated so as to avoid the production of the slightest dyspnea or other indication of strain on the part of the patient. The object of this treatment is to furnish patients with muscular exercise which will maintain and even promote healthy nutrition of tissues, and which will always be within the capabilities of the heart. At Nauheim this is associated with effervescing brine baths, and it would seem that many patients derive benefit from the influence of the brine and carbonic acid upon the cutaneous circulation, and also upon the nervous system. The water comes from hot springs, 83° to 100° F., and contains chlorides of sodium and calcium, together with free carbonic acid; these increase the reduction of the pulse rate that is caused by the simple warm bath and simultaneously augment the force of the heart. Probably much of this is due to the stimulating effect of the bubbles of carbonic acid upon the peripheral terminations of the nerves. The average temperature of the bath is 95° F., and the patient remains immersed for about eight minutes; but as the treatment progresses the temperature is gradually reduced to about 86° F., and the duration of the bath increased to 20 minutes or half an hour. Rest after each bath for at least one hour should be strictly enjoined. [This abstract is made from reports that have from time to time been made by various writers, all of whom claim that in many cases of failing heart muscle, with or without valvular murmurs, much benefit has been obtained from a faithful and judicious application of this treatment. For the artificial bath SIR T. GRAINGER STEWART recommends that 5 pounds of chloride of sodium and 8 ounces of chloride of calcium be added to 40 gallons of water, and that effervescence be produced by the further addition of Sandow's tablets.—W. W. K.]

Dosage in Anesthetics.—DR. A. WALLER looking closely into the reports of deaths, it appeared that these had occurred because chloroform had been improperly administered, from ignorance or carelessness, probably the former. Snow, forty years ago, made a statement that to produce the second stage of anesthesia, 12 minims of the anesthetic [chloroform] in the blood are necessary; to produce narcotism of the third degree, about 18 minims are necessary; while to produce full surgical anesthesia, 24 minims are required. To produce death requires double the minimum amount which produces the minimum amount of anesthesia, namely, 36 minims. From the results of physiological work it came out with remarkable coincidence that the lethal dose of chloroform was twice the anesthetic dose. If a rough calculation of the average fluids of the body is taken, the amount of chloroform present in the blood which is necessary to anesthetize a mammalian animal, including man, is between 1 and 2 per cent.; the maximum should not be exceeded. Toward procuring safety in administration, the first step is to recognize the fact that, as regards the rough and ready use of an anesthetic, one may not take chloroform and ether as being at all on the same footing. In using the former we deal with a weapon seven times as powerful as is ether. This is especially important in minor surgery, for it is here that nine-tenths of the deaths from anesthetics occur. As to the safe use of chloroform, it was a question of measurement—a question of quantity per time—that must be aimed at in order to abolish death by chloroform. There should be some agreement as to quantity among anesthetists. Uniformity of strength cannot be obtained in an "open method" of inhalation. Some method must be adopted which shall enable the anesthetist to know how much chloroform is being given per minute.—*Clinical Journal—American Journal of Medical Science.*

Gastric and Intestinal Antiseptics.—RIEGNER, of Senator's clinic (*Deut. med. Woch.*), first refers to the various views held as to the possibility of disinfecting the contents of the alimentary canal. He has himself continued the experiments of Strauss upon gastro-intestinal antiseptics. Stomach and intestinal contents were placed in graduated tubes, the grape sugar in equal amounts added. The antiseptic was then added in known quantity in watery or alcoholic solution, and more rarely in powder form when not soluble, The author gives details of a number of experiments. As regards gastric antiseptics, he concludes that sodic salicylate ⅛ per 1,000, menthol ½ to 2 per 1,000, and thymol ⅛ to ½ per 1,000 have relatively high disinfecting powers. A medium disinfectant action is possessed by chinosol, chloral hydrate, soluble silver, and actol, and only a slight one by even large doses of steriform and ichthyol. As regards intestinal antiseptics, chinosol and thymol arrest fermentation in ½ per cent. solution, and delay it in ⅛ per cent. Actol, bismuth salicylate, or bismuth *b*-naphthol arrest it in 1 per cent., and delay it in ¼ per cent. Resorcin, chloral hydrate, silver, benzo-naphthol, and steriform are inferior to the agents above mentioned. From experiments it becomes obvious that antiseptics behave differently in relation to the stomach and intestines. Thus menthol is an excellent gastric, but an inferior intestinal antiseptic. These questions cannot be definitively settled by laboratory experiments, but must be determined by practice. Thus a disinfectant is useless if too poisonous. Again, a gastro-intestinal antiseptic must be insoluble. This insolubility is also a guarantee against intoxication. Extensive contact with the intestinal contents is desirable, and hence the antiseptic should be given in frequent and small doses. In motor insufficiency of the stomach salicylic acid, menthol, and thymol have been shown to be of clinical value by Strauss. Among intestinal antiseptics Strauss has shown menthol to be worthy of recommendation. Thymol is inferior to menthol, and must be given on a full stomach to avoid irritation. Actol must be given in capsules or pills, which are not soluble in the stomach. Both bismuth salicylate and bismuth *b*-naphthol are worth trying in flatulency. Sodic salicylate and chinosol are too soluble. Washing out the stomach and bowel is an important measure. Salicylic acid, menthol 0.25 g., thymol 0.1 g., may be added to nutrient enemata. The author comes to the conclusion that these antiseptic agents have a practical if somewhat restricted value.—*British Medical Journal.*

MEDICINE AND PATHOLOGY.

By ALBERT ABRAMS, M.D., Professor of Pathology, Cooper Medical College, San Francisco.

The Treatment of Anemia by Mountain Air.—According to LEPINE, Paul Bert first directed attention to the fact that a given volume of a mountain animal's blood absorbs more oxygen under similar conditions than an equal quantity from an animal of the plain. These experiments were subsequently confirmed. Subsequent investigations also demonstrated that mountain air produces a real increase in the number of red blood corpuscles, and has nothing to do with a supposed concentration of serum through evaporation. The increase of hemoglobin at high altitudes is not as rapid as the red globules Suter and Jacquet found that in rabbits which had lived at Davos for four weeks, not only was their blood one-sixth richer in hemoglobin than that of those left behind at Basle, but the quantity was more per kilogram of body weight (about one-tenth). The cause of this increase in blood corpuscles is not properly understood. This much is certain, that in healthy persons the increase is not permanent, but disappears as rapidly as it came, when the individuals returned to low altitudes. The important fact remains, however, that anemic individuals retain more corpuscles than they had before their residence in the mountains, for a long time after their return.—*Semaine Médicale*, March 16, 1898.

Subacute and Chronic Rheumatic Myositis.—MILLER points out that myositis might be and not infrequently is mistaken for articular rheumatism, especially in cases where the affected muscle covered a joint, as in the case of the deltoid. In regard to diagnosis, he directs attention to the following points: (1) The pain was in the muscle itself, which could be made out by careful palpation. (2) All movements of the limb did not hurt, only voluntary contraction of the muscle affected, and the movements that stretched it. In regard to treatment, internal remedies were of little value. The myositis subsided of itself in a few days. Locally, he considered dry heat the best application for relieving the pain. He next refers to chronic myositis with stiffness, the result of muscular contraction and atrophy. This condition, he considered, was mistaken for adhesiveness, the result of synovitis. The anchylosis was more apparent than real, being the result of muscular fixation of the limb—partly voluntary and partly involuntary—to prevent painful movements of the limb. Treatment consists of exercise of the limb, passive and voluntary, the latter being more important. He had seen a single full dose (ʒi) of cimicifuga relieve lumbago and pleurodynia. He does not think it will cure rheumatism. He does not believe that anybody could, in the sense of removing the rheumatic condition of susceptibility to cold, damp, and weather changes. He does not believe that diet has much influence on rheumatism. He thinks that those who were benefited by dieting were most likely gouty. He refers to the well known susceptibility of rheumatic persons to barometric changes, and especially to the curious fact that pain came on before rain, or change of weather. He pointed out that all the ordinary explanations of this fact would not apply to all circumstances. He ventures the suggestion that there is a combination of cold and damp before rain. He had noticed frequently that the air became chilly before a shower, and he had been told by a friend, a naturalist, that the atmosphere might be more saturated before a shower than when the rain was actually falling.—*British Medical Journal*, June 11, 1898.

Intestinal Auto-Intoxication.—MULLER claims that the views on this subject as grounded by Bouchard have not met in Germany with the recognition they so richly deserve. By auto-intoxication is meant such conditions provoked by tissue metamorphosis in one's own organism. In intestinal auto-intoxication, typhoid-like symptoms are often produced by the ingestion of diseased meat and milk. The products of decomposition produced in the intestines by microbes, like indol, phenol and scatol are less toxic than diseased food products, the organs being immunized as it were by the former products. The conducive factor for decomposition of the gastro-intestinal contents is stasis of the latter. It also occurs in constipation and is most pronounced in peritonitis and ileus. The many remedies suggested as internal antiseptics are valueless. Their value is only maintained by the sensational literature of the manufacturing chemist. Calomel is more of a purgative than an antiseptic. Antisepsis of the gastro-intestinal tract is best secured by repeated lavage of the stomach, and by the use of purgatives. In the discussion following the paper, EWALD, of Berlin, reported two cases of severe intestinal auto-infection, the one resulting from the stomach, the other from the intestines, as a result of obstipation. In both cases severe cerebral disturbances (vertigo, sopor, etc.) were present. By energetic removal of the products from the gastro-intestinal tract, cure resulted. ALBU cited a case published by Kalhaas, in which coma was present in a patient who had dilatation of the stomach. QUINCKE suggested to counteract intestinal putrefaction, the internal use of yeast. STERN has found calomel to be an excellent intestinal antiseptic, in fact, one of the best we possess. This statement is based on bacteriologic researches. BOAS held that cases of acute auto-intestinal intoxication were not infrequent. In such cases the kidneys were an excellent adjunct to the intestines in the process of eliminating the toxic products. In all cases of auto-intoxication, as is well known from experience, the quantity of urine excreted is always diminished, hence our efforts should, in part, be directed toward counteracting the renal insufficiency. Calomel acts simultaneously on the intestines and kidneys. To combat abnormal formation of gases, salicylic acid is useful. FURBRINGER vindicated calomel as an intestinal antiseptic.—*Therapeutische Monatshefte.*

Diagnosis and Prognosis of Apoplexy.—GILLES DE TOURETTE directs attention to the temperature in cerebral hemorrhage. When the apoplectic attack occurs the temperature falls, but it is not a permanent fall. In three or four hours the temperature will rise to 100.4°, or 102.2° F., where it may remain stationary. If, at the end of 12 or 24 hours, the rise in temperature is above 104°, death is imminent. If the temperature vacillates around 102.2° F., and there is, besides, conjugate deviation of the eyes and head, or early contraction of the pupils, the prognosis is grave. On the other hand, if the temperature remains below 102.2° F. for the first 24 hours after the attack, the outlook is favorable. The prognosis is even better if, during the next few days, the temperature continues to fall. One ought never to commit one's self in prognosis during the first four days, insomuch as there is always danger of secondary hemorrhage. The thermometer is of value in differentiating organic cerebral lesions (tumor, softening, etc.) from intoxications and hysteria. In the former the temperature is always elevated, whereas in alcoholism, opium, belladonna, digitalis, aconite, and hyoscyamus poisoning, as well as in uremic and diabetic coma, the temperature is below the normal. The temperature in hysteria is usually normal.—*Semaine Médicale*, June 8, 1898.

Differentiation of the Cardiac Incompetency of Intrinsic Heart Disease and Chronic Nephritis.—DR. BILLINGS remarks that in all inflammatory diseases of the kidneys, there are cardio-vascular changes. In chronic nephritis, while the cardio-vascular changes are less marked, dropsy may occur with all the phenomena of an incompetent heart The incompetent heart of arteriosclerosis may present phenomena so nearly like the clinical findings of inflammatory conditions of the kidneys as to be differentiated with difficulty. There are some special signs valuable in differential diagnosis. If the urine shows a relatively low specific gravity, with diminished total solids, lessened urea, much albumin, casts of all varieties, pulse full and sustained, dropsical effusion poor in albumin and containing urea in considerable amount, tendency to persistent morning nausea, vomiting of stringy mucus, frontal or occipital pain, tendency to alternating mental excitement, somnolence and coma, epigastric pain, eye ground showing changes of albuminuria, and patient possesses waxy face and general anemia, the diagnosis is favorable to nephritis. If heart action is irregular, pulse weak and not sustained, with or without arterial sclerosis, dyspnea on exertion attended with cyanosis, only moderate degree of anemia, dropsical effusion relatively rich in albumin but containing little or no urea, considerable enlargement of liver and tenderness of left lobe, urine scant, of high specific gravity, but few casts, little headache, no eyeground changes, and if thrombosis or embolism occur, the diagnosis is in favor of intrinsic heart disease.—*Medical News*, June 11, 1898.

Intragastric Electricity.—REED has found the intragastric use of the faradic current very efficient in strengthening the atonic gastric muscle in dilatation of the stomach. In mild cases of dilatation, diet and exercise are alone sufficient. Cases of long standing usually improve on a careful diet, lavage, special exercise for strengthening the abdominal muscles or intragastric electricity. Massage suits best when there is a deficiency of the gastric juice. In reference to diet, patients with atonic stomachs must avoid eating heavy meals and to take not more than a half pint of fluid, including soup, with each meal. *Journal American Medical Association.*

Extreme Cold in the Treatment of Tuberculosis.—Seeing the good effects obtained by M. Pictet by the use of ice chambers in the treatment of dyspepsia, MM. LETULLE and RIBARD were induced to try the same method in treating the dyspepsia of phthisical patients. They consider that cold rays penetrate the body just as X-rays and arrest pyrexial changes. Beneficial results are reported. MM. Chassep and Cardes have recorded 96 cases in which the anorexia was markedly diminished. The exposure to the cold should not exceed ten minutes at a time.—*Presse Médicale.*—*Dublin Journal of Medical Science.*

Treatment of Enlargement of the Spleen.—MOCUCCI (*Riform. med.*), at the suggestion of Prof. Raymond, applied a spray of ether twice daily for 4 weeks over the splenic area and noted, in 12 cases, a decided diminution in the size of the spleen in cases of malaria. This method of treatment is furthermore suggested in all cases of enlarged spleen for the rapid reduction of that organ.—*Münchener med. Wochenschrift.* [I attempted this method of treatment in two cases of enlarged spleen and noted the immediate reduction in the splenic area of dulness. The method was then applied over normal areas of splenic dulness in different individuals, and the area of dulness could, in consequence, be diminished to complete obliteration. Then the ether spray was applied to the normal area of cardiac dulness, and at once this area could be obliterated. One could, therefore, conclude that the heart could be reduced in size by the application of ether to the skin over the heart region. This is not true, however; the reduction in the size of the heart and spleen was not real. The diminished area of dulness in the case of both organs was caused by acute dilatation of the lung, superinduced reflexly by the action of cold on the cutaneous sensory nerves, one of the most potent influences, as I will show in a later contribution, for inducing dilatation of the lungs. The action of ice to the skin over the region of the liver, spleen, or heart, is sufficient, in certain individuals, to obliterate all evidence of dulness over those organs, and this occurs, even when the cold is applied to cutaneous regions far remote from the viscera which are to be influenced. Radioscopy has verified the foregoing conclusions.—A. A.]

MENTAL DISEASES AND MEDICAL JURISPRUDENCE.

By A. W. HOISHOLT, M.D., Assistant Physician, State Asylum for Insane, Stockton, Cal.

Dreamstate with Amnesia, the result of a Trauma.—DR. F. NACKE describes these symptoms in a recent article, as the result of an attack upon himself by a paranoiac, who struck him a blow in the face, knocking him down. Dr. Näcke, however, continued his round, and even made a written report in his notebook of the cases as he went along. He also gave various directions in regard to management to a number of employes. Afterwards a complete amnesia in regard to all these things was found to exist, and for some time a certain defect of memory still remained. The author concludes by calling attention to the importance from a medico-legal standpoint of recognizing that such dream-states are possible as the result of a slight traumatism.—*Neurologischen Centralblatt—Centralblatt f. innere Medicin.*

A Case of Psychical Blindness.—DR. R. LEPINE reports one of the extremely rare cases of psychical blindness in a a patient 33 years of age, who presented some of the symptoms of dementia paralytica. Agraphia and aphasia were not present, but while the patient was able to read, he was incapable of recognizing by means of vision and the senses, persons and objects, with whom he was not familiar prior to the beginning of his illness. The field of vision was irregularly contracted, and apparently hemiopic. The central vision was good, color-sense intact. While the patient was able to write, he had completely lost his former ability to draw or to copy drawings.—*Revue de Med.—Centralblatt f. innere Medicin.*

The Therapeutic Value of Spleen Extract.—DR. A. CAMPBELL CLARK has made experiments with this substance in an asylum in Scotland, and has found that physically it increases the pulse rate from 5 to 15 per cent., and raises the temperature from ½° to 1° in the majority of cases. It improves the appetite in some, while in a great many the digestion was improved without any relish for food, perhaps because it is rather nourishing to some. In the majority of cases it did not seem to have any effect upon the bowels, but does appear to produce an increase in weight, though this is only slight in some cases. It produces an increased color and warmth of the skin, and makes it softer and more elastic. Improved complexion was noticed in pale, cold, anemic women, in women with dry, sallow skins, and in pale-faced men. Mentally it would seem to have a stimulating influence, as exhibitions of temper were quite noticeable, especially in the male sex; it even appeared to have an awakening influence on several male adolescents, who had lapsed into stupor. In several cases the result had been a form of mental excitement, sometimes attended with hallucinations; in one case the mental excitement was severe, impulsive and violent; in another it was one of exaltation with chatty irrelevancy and perfect good nature; along with it there was an increase in appetite and weight. In others there was a mild excitement, with occasional spurts of irritability and displays of temper. These results had not infrequently been obtained in the case of patients who had been addicted to self-abuse, but in whom the habit was suspended owing to nervous exhaustion. It was not found that the habit was again resorted to under the influence of spleen treatment, except in one case, which afterward recovered. While spleen extract has thus been found to be a potent mental agent in male cases, it does not so frequently, nor to the same extent produce spurts of irritability and temper in the case of female patients. The most potent preparation was an emulsion of the ethereal extract, of which each fluid drachm represented five grains of extract. The largest dose administered was one drachm four times daily. The remedy should be taken on an empty stomach, half an hour before meals.—*Edinburgh Medical Journal—American Journal of Medical Science*, May, 1898

A Case of Optic and Tactile Aphasia.—DR. VORSTER has observed these phenomena in a woman 74 years of age, who had several times in the past recovered from attacks of melancholia. In connection with a right-sided hemiparesis, hemianesthesia and hemiopia, a verbal alexia, total agraphia and an optic and tactile aphasia, developed themselves. Her perception of all objects was good and she made proper use of them, but she was unable to name them correctly. The anatomical findings at the *post-mortem* examination gave a satisfactory explanation of all the clinicul symptoms. The hemiopia was due to a large focal softening within the left occipital lobe. The optical aphasia was caused by an interruption in the optic-acoustic tract; on the one hand the connection of the left occipital lobe with the center of speech was destroyed by a complete degeneration of "stratum sagittale externum" and a partial degeneration in the region of the marginal gyrus; on the other hand, the connections of the right with the left center of vision and with the center of speech were destroyed by extensive degeneration in "forceps" and "splenium corporis callosi." The tactile aphasia is finally referred by the writer to a focal softening in the left marginal gyrus. The optic aphasia always depends, as far as our present knowledge goes, upon a disturbance in the optic-acoustic tract, and shows itself, clinically, as an inability to correctly name objects which are perceived and recognized, this inability being at the same time not dependent upon the existence of a verbal aphasia, or a general defect of memory. This disturbance of speech is closely related to what is known as subcortical alexia, which is often said to be a form of it, but which the writer considers quite distinct from optic aphasia.—*Archiv. f. Pysch. n. Nervenkrankheiten—Centralblatt f. innere Medicin*, June 11, 1898.

A Case of Variable Drug-habit.—DR. C. FÉRÉ describes the case of a young farmer's wife, who had always been well and had no history of family neuropathy. Grieving at the death of her only child, she became so addicted to liquor that she, after some years, was on the point of delirium tremens. During the following 20 years she became successively habituated to the use of ether, again to alcohol, then to morphine, and finally to cocaine. No sooner was she rid of one mania, than she succeeded secretly in getting hold of another poison. During the period of over 20 years there was an interim of four years, in which she enjoyed perfect health, finding peace and happiness in the devoted care of an adopted child. Finally, she had an attack of hemiplegia, and was from that time on cured of her mania. Dr. Féré concludes from his observations in the case, that it is not sufficient to wean the patient from the poison, but that one must cure him of his morbid craving for poison in general. This was accomplished in this case temporarily by an employment which occupied the mind, and, finally, by a bodily ailment, which was more serious than the toxico-mania. The case is, in a way, an explanation of the many failures in the treatment of alcoholism.—*Journal méd. de Bruxelles.—Centralblatt f. innere Medicin*, June 11, 1898.

A Case of Delirium of Persecution (Acute Paranoia) Cured by the Removal of a Dermoid Cyst of the Ovary.—DR. A. VOISIN has published the following case: The patient, with a neuropathic family history, had a pessary introduced for prolapsus uteri, six years ago. Being a virgin, this treatment made such an impression on her as to disturb her mental faculties, and she became sad and at times showed violent temper. Later on she developed marked delirium of persecution, with hallucinations of sight and hearing, accused several persons of plotting against her, and tried to commit suicide twice. Laparotomy was finally performed, and a large multilocular ovarian cyst extracted. For two days after the operation the patient was somewhat excited; after that all the cerebral disturbances ceased permanently. The foregoing observations of mental disturbance, being cured by a surgical operation, is considered as extremely rare and interesting, as one is accustomed to observe mental symptoms develop subsequent to surgical interference upon the female genital organs.—*France Médicale.—Journal of Nervous and Mental Diseases.*

Statistics Dealing with Hereditary Insanity.—DR. J. TURNER has analyzed the histories of 1,039 patients, who have been in his care during the last ten to eleven years, and has arrived at the following conclusions: On the subject of direct inheritance, taking all cases of acquired and congenital insanity, he finds that while the insane father transmits his mental instability to a greater number of offspring than does the insane mother, it is on the daughter that it mostly falls, and where the mother is insane the influence is still more marked in the direction of the daughter, so that whichever parent is insane, ultimately more daughters inherit insanity than sons. In conformity to this idea he has found the number of insane mothers very considerably greater than that of insane fathers. In cases of reversional and collateral inheritance, he has found that the stronger influence in both sexes comes through the maternal branch of the family, and that the males have the larger number of brothers insane, the females the larger number of sisters—*Journal of Mental Science—Journal Nervous and Mental Disease*, December, 1897.

FORMULÆ.

By H. E. Sanderson, Ph.B., M.D., Assistant Physician State Asylum for Insane, Stockton, Cal.

Pelvic Peritonitis and Peri-Uterine Exudate:

Iodol	ʒ iss.
Ext. glycyrrhiza *q. s.*	
ft. pil. No. LX.	

Sig.—One pill 4 times a day for 4 days; then gradually increase till 10 daily are taken.—*Therapist.*

Cystitis. — Sundenberg (*Wiener klin. Wochensch.*) advises the following, which he tried in fifty-six cases:

Cantharadin (Merck)	0.001
Alcohol	1.000
Aquæ	100.000

Sig.—Teaspoonful three times a day. —*Columbus Medical Journal.*

Pertussis.—Dr. Roskaw treated 290 cases of pertussis with a solution of resorcin, 2 to 3 per cent., applied to the glottis every four hours. Two hundred cases so treated recovered within fifteen days, and the remainder within a month.—*Denver Medical Times.*

Alopecia Areata.—Panichi recommends: Make punctures with a hypodermic needle, especially about the periphery of the patch, the needle being dipped in:

Acid carbolic. pur.	3 parts
Tinct. cantharidis	6 parts

Repeat every 4 or 5 days.—*Medical Record.*

Menthol-Collodion for Contusions.

Menthol	3 to 6 parts
Collodion	24 to 27 parts—M

Sig.—Paint on once or twice a day. Not to be used for joints.—*Journal de Medicin de Paris.*

Measles.—To develop the eruption and allay incessant laryngeal cough:

Syrup acid. hydriodic.	
Syrup Dover.	
Syrup tolutan	āā ℥i

—*Medical Record—Columbus Medical Journal.*

Ointment for Enlarged Glands:

Ichthyol. Ungt. hydrarg. Ungt. belladon.	āā ʒi
Ungt. petrolati	℥ss

Sig.—Apply morning and night, with friction, till absorbed.—*Medical News.*

Severe Lumbago.—Dr. R. S. Bernice advises:

Ammonii chloridi	gr. xx
Ammonii carbonatis	gr. v

At dose, in water. Or:

Ammonii chloridi	ʒiii
Liq. hydrarg. perchloridi	℥ss
Spiritus chloroformi	℥ss
Infus. gentian. comp. *q.s.ad*	℥vi

Sig.—Tablespoonful, in water, three times a day.—*Medical Record.*

METEOROLOGY.

Summary for May, 1898.—*Temperature.*—The normal temperature of the State for May is 65.8°; the average for May, 1898, was 61.3°, a departure from the normal of −4.5°; the highest monthly mean was 88.4°, at Volcano Springs; the lowest, 40.3°, at Bodie. The maximum temperature was 109°, at Volcano Springs and Salton, on the 11th and 22d, respectively. The minimum, 14°, at Bodie, on the 20th. The absolute range for the State was 95°. The greatest monthly range was 62°, at Tulare; the least, 16°, at Point Lobos.

Rainfall.—The normal precipitation for the State for May is 0.95 inches; the average for May, 1898, was 1.56 inches, a departure from the normal of +.61 inches. The greatest monthly precipitation was 8.27 inches, at Morse's House; the least, nothing, at many stations.

Wind.—The prevailing direction of wind was west.—W. H. Hammon, Forecast Official and Section Director.

California—Tabular Statement for May, 1898.

STATIONS.	TEMPERATURE.						RAINFALL.		Mean Relative Humidity	WEATHER.			WIND.	FURNISHED BY—
	Mean...........	Highest..	Lowest....	Mean Highest...........	Mean Lowest............ ..	Mean Daily Range.........	No of Days Rain Fell......	Total Rainfall...............		No. of Clear Days......	No. of Fair Days...........	No. of Cloudy Days............	Prevailing Direction.	
Auburn ....Cal.	57.6	82	46	------	------	------	5	2 26	------	18	0	13	S.	Southern Pacific Company.
Berkeley......... "	55.2	68	45	61.8	48.5	13.3	6	1.87	86.0	8	6	17	S.	Obs. University of California.
Colfax........... "	54.4	80	42	------	------	------	8	2.89	------	17	1	13	N.	Southern Pacific Company.
Coronado........ "	------	------	------	------	------	------	----	---- --	------	----	----	----	--------	H. A. Massac.
Eureka........... "	50.0	59	39	54.5	46.2	------	12	2.62	85 0	9	7	15	N.W.	Weather Bureau Dept. Agr.
Fresno........... "	65.0	97	47	78.7	51.7	------	4	0.79	48 0	21	7	3	N.W.	" " "
Keeler............ "	66.0	96	50	------	------	------	0	0.00	------	12	16	3	S.	California and Nevada R. R.
Los Angeles.... "	60.0	80	46	69.0	51.0	------	2	1.75	------	8	18	5	W.	U. S. Weather Bureau.
Monterey .... "	54.5	64	49	------	------	------	3	0.94	------	20	0	11	S	Southern Pacific Company.
Napa........... .. "	56 9	79	39	68.3	45.6	------	4	1 64	80.0	6	15	10	S.W.	Station Napa Insane Asylum.
Oakland......... "	56.6	75	45	64.8	48.3	------	6	1.50	------	8	10	13	W.	Chabot Observatory.
Paso Robles.... "	59.2	96	36	76.8	59.2	31.9	2	0.68	------	17	10	4	S.W.	Agr. Experimental Station.
Red Bluff....... "	64.0	91	47	75 0	52.0	23.0	7	2.28	53 0	16	6	9	S.E.	Weather Bureau Dept. Agr.
Sacramento..... "	60.0	87	44	71.4	48.4	23.0	5	1.50	64.0	12	7	12	S.W.	" " "
San Bernardino "	61.8	94	41	------	------	------	4	1.08	------	14	15	2	W.	A. K. Johnson, M. D.
San Diego....... "	64 0	69	51	63.2	54.5	------	7	0.66	77.0	24	2	5	N.W.	Weather Bureau Dept. Agr.
San Francisco.. "	53 0	63	46	57 2	48.0	9.2	8	1.44	84 0	10	10	11	S.W.	" " "
Santa Barbara.. "	58.3	79	44	66.7	49.9	16.8	1	1.25	72.0	21	3	7	W.	Hugh D. Vail.
Santa Cruz...... "	55.8	76	37	------	------	------	4	1.35	------	13	9	9	S.W.	Ralph Springer.
Yuma...........A. T.	74.2	103	49	89.6	58.5	31 0	0	0.00	35.0	25	4	2	W.	Weather Bureau Dept. Agr.

Blank (----) indicates data missing.

Occidental Medical Times.

COMMUNICATIONS are invited from all parts of the world. When necessary to elucidate the text, illustrations will be furnished without cost to the author.

SACRAMENTO: JULY, 1898.

CALIFORNIA NORTHERN DISTRICT MEDICAL SOCIETY.

The eighth semi-annual meeting of the California Northern District Medical Society was held at Davisville, on June 14th. It might have been regarded as a new and rather risky departure to hold a meeting in so small a town as Davisville, yet the experiment proved quite successful. Willows and Oroville had been under discussion, but were abandoned as unsuited for a semi-annual meeting, where the attendance is always less than at the annual gatherings. On the other hand, the little town of Davisville is more conveniently situated than any other point in the southern portion of the District, being practically a junction point and with an ample train service.

The selection of Davisville was useful in another way, that of emphasizing the fact that the Society can meet at any convenient point without inflicting a tax upon the local profession—there being really no reason for any expenses being incurred other than those always borne by the Society. A useful precedent has thus been established and the way paved for future meetings, both profitable and interesting to all concerned, at many points that have, so far, not been visited.

The attendance at the sessions was excellent, and a sufficient number of papers was presented to fully occupy the time of the Society. In the absence of the customary banquet, the Society was hospitably entertained by the "profession of Davisville" at a substantial lunch, which was served at a very oppportune moment.

The annual meeting of the Society will be held in Sacramento, the regular date being November 8th. In consequence, however, of the general election falling on that day, the question of a postponement has been discussed, and it is probable that the President will take the necessary steps with a view to a postponement of one week, at least. Sacramento has hitherto had the credit of holding very successful meetings, and we believe that there is no reason why the coming meeting should in any way fall short.

SOCIETY PROCEEDINGS.

SACRAMENTO SOCIETY FOR MEDICAL IMPROVEMENT.

Regular Meeting, June 21, 1898.

The President, F. R. WAGGONER, M.D., in the Chair.

Biogenesis.—DR L. A. HARCOURT read a paper upon this subject, giving a history of the battles fought by scientists over the theory of spontaneous generation. The result was the overthrow of the theory, and the establishment of the law of biogenesis, or life from life only. The experiments of Tyndall, Huxley, Spencer, Pasteur, Koch, and others prove conclusively that life can come only from preëxisting life, and that inorganic matter must be touched by life itself before it can be endowed with its properties or its attributes. This law has been of inestimable benefit to mankind. It is the basis of modern asepsis and antisepsis, of late improvements in the *technique* of surgery, gynecology, and obstetrics, which have rendered possible operations never dreamt of before, and the brilliant results in surgery achieved during the last 25 years. All recent advancement in medicine has been along biological lines, and is the logical outgrowth of the principles of asepsis and antisepsis, which rest essentially upon the law of biogenesis. The use of bovine virus in the prevention of small-pox, Pasteur's method in hydrophobia, Koch's lymph in tuberculosis, antitoxin in diphtheria, and the various antitoxic serums in scrofula, tuberculosis, lupus, cancer, tetanus, and kindred diseases, as well as antiseptics in intestinal affections, is in perfect harmony with this law, and is rationally explained by it, and by it alone. Due credit should be given to Lister and the noble workers who have brought surgery to its present high standing; but it seems only just to acknowledge our great indebtedness to Tyndall, Huxley, Spencer, Pasteur, Koch, and other scientists whose experiments and investigations have rendered possible the highest achievements in surgery and the grandest triumphs in medicine.

DR. T. W. HUNTINGTON: I shall speak only on the surgical side of this subject. I am impressed with the fact that biogenesis has done more for medicine and humanity through the field of medicine than it has done through the field of surgery, and I speak in this connection especially with reference to preventive medicine. Looking over the time since we have anything like a history, we find that the great loss of life has been through epidemics. Deaths from wounds, accidents, etc., have been insignificant when compared with the enormous loss of life which has occurred through epidemics. I recently had occasion to call attention to the epidemic of cholera at Hamburg. There were about 18,000 cases, of which more than one-half died. At Altoona, which derived its water supply from the same source, the Elbe, but filtered it before use, there were comparatively few cases Preventive medicine had done that much for them, and will do more for other cities. Coming to the surgical side, and beginning with my early experience in the work as laid down in 1884, I have followed pretty carefully the progress that has been made in this department from that time on, and I cannot do better than to repeat the words of Senn, "that there has been more progress made during those 14 years than had been made during the 14 centuries preceding that period." I became an enthusiast in the work I was doing, and I have to say that, while I am not less enthusiastic than I was five or ten years ago, I am more conservative, and more apt to place a barrier around myself when I speak to such a subject, and if I make a confession to-night, I want to do it with the utmost frankness when I say that within a period of five, six, seven, or eight days I did not meet with the results that modern methods seemed to justify. I believe that the public expressions of surgeons, in particular, should be conservative. We have had from Senn, a man who is doing work in three of the best hospitals in the city of Chicago—doing it for a quarter of a century of thorough study of the *technique* of asepsis and antisepsis—doing it with intelligence which has sprung from work done before, that he does not complete a day's work without finding pus where it ought not to have been seen. That is the experience of those men I have met with That our results are very much better than they were before there can be no doubt, but that we can attain the high standard that is laid down for us I very much doubt, and I believe that every honest man will say that he now and then opens a healthy skin under all sorts of precautions and with the best environment, and within three, five, six, eight, or fourteen days cases of suppuration will occur in wounds that apparently ought to have healed by first intention. It has been said to-night that wounds involving the removal of suppurating glands could be made with almost a certainty of avoiding septic infection of the wound subsequently. I remarked at the time that I could not do that. I have done it now and then, but the rule is that where suppuration existed within a gland, and with asepsis and antisepsis, I invariably get some sort of infection. Bernays, of St. Louis, says thas out of 82 cases of suppurative appendicitis, or abscess, that he lost but one case. If Dr. Bernays can do that he is the only one, and I believe that every case within a reasonable radius should be placed within his hands, for I do not believe there is another man who will attempt to allege that he can accomplish such results. I want to say a word to those who have less experience than some, that the very wise man is always an agnostic; a very wise man who has learned the most possible, on a given subject, is less certain as to those things than persons with less opportunities; the man with little experience will allege not a falsehood, but an error, and with more positive assurance than will a wise man the truth.

Dr. G. A. White: The doctor's paper is one which I enjoyed. He has sprung a new name upon us to direct our attention to the old subject of medicine and the treatment of disease according to modern lines. The practice of medicine and surgery has two sides—the ideal and practical. If we could have ideal conditions we could obtain ideal results, and the reason why failure follows our best efforts is because our conditions and environment are not ideal. Our practice in well regulated hospitals will enable us to obtain results not possible in private practice. The wise and skilful physician endeavors to place his field in an ideal condition. If he does so his labor will not be in vain. His pus cases will be fewer and far between and his failures will be reduced to a minimum. It struck me, when I read the definition of the word "biogenesis," as given by Dunglison, that the author was endeavoring to bring us back to the first principles, and that it would devolve upon us to review this subject, but I confess that I did not have the enthusiasm to engage in the research necessary to discuss his paper intelligently. I want to confirm what Dr. Huntington has said with regard to getting aseptic results in all pus cases, and especially in tuberculous glands where abscess was present. It is extremely difficult to sterilize the field, to a certainty.

Dr. L. A. Harcourt: In regard to the position taken by Drs. Huntington and White, I believe the statement was, that even where suppuration had occurred, that infection of the operative wound could be avoided if the pus cavity could be hermetically sealed and the contents prevented from infecting the wound. You all know that in every case of suppuration there is a period when the tissues on the outside break, allowing the contents to run down on the outside. I ought, perhaps, to have explained the method in those cases. Take the mammary gland, for instance, there may be an opening as large as the head of a pencil from which there is more or less discharge. If you take a scalpel and cut and remove the dead tissue without infecting the wound, and seal with iodoform gauze, you ought not to have suppuration. I did not intend to say that this could be done in all cases. I have seen it done by Senn several times, and do not see anything impracticable about it. If you can secure absolute asepsis you will have little suppuration.

CALIFORNIA NORTHERN DISTRICT MEDICAL SOCIETY.

Semi-Annual Meeting held at Davisville, June 14, 1898.

Morning Session.

The semi-annual meeting of the California Northern District Medical Society was held in Masonic Hall, the Society being called to order by the President, T. W Huntington, of Sacramento.

Address of Welcome.—W. E Bates, of Davisville, as Chairman of the Committee of Arrangements, welcomed the Society to Davisville, but in view of his manifold duties in connection with the meeting, begged the forbearance of the members as he had not prepared an address for the occasion.

Spina Bifida, with a Report of a Case.—H. D. LAWHEAD, of Woodland, read a paper upon this subject, and exhibited the patient. The history of the case was briefly as follows: R. P——, the fourth son, and fifth child of the family, was born March, 1881, of healthy and vigorous parents. Dr. Thomas Ross, of Sacramento, but then of Woodland, who confined the mother, discovered, on the second day after birth, a small ovoid, soft, elastic sessile tumor at junction of lumbar with sacral spine. He advised gentle support with light pressure over the tumor The infant grew and developed, the only peculiarity noticed being that it was difficult to put on his shoes, because the toes curved downward, dragging on the bottom of the shoes. Three or four years ago the parents noticed that he stumbled, and fell more frequently than did other children He also seemed utterly regardless as to the treatment his feet received in play. At 6 years of age, talipes varus began in the left foot, and a little later, perforating ulcers developed on the plantar surface of the foot. These ulcers were all obstinate, and some were impossible to heal It was found that sensation was materially diminished over the entire foot, though motion was preserved, except in the extensors of the toes, where it was weakened During the following eight or nine years the most diligent efforts were made, by braces, etc., to correct and to prevent deformity, but to no purpose. Five years ago the plantar fascia and the tendons of the tibialis anticus and posticus were severed subcutaneously and the foot kept in normal position with braces, the patient being on his back for three months. An indolent sore persisted at the site of the skin incision Subsequently, several trophic ulcers occurred which defied treatment. Sensation progressively faded, though motion was fairly well maintained. In October, 1893, marked sepsis having occurred, the left leg was amputated at the junction of the upper and middle thirds The patient made an ordinary recovery, and with a fairly good stump An artificial leg has since been successfully worn, with occasional interruptions from keloid growths on pressure points. About two years ago deformity and ulceration began in the right foot, following about the same course as the left. In October, 1897, the right leg was also amputated, and the wound healed without suppuration Two months ago, the stump of the left leg became swollen and rather tender. The artificial leg was laid aside and the inflamed stump kept at rest and bathed daily with a hot bichloride solution 1:6000. Two or three weeks later, a small sinus opened and discharged small quantities of pus occasionally. About this time a keloid developed on the inner side of the stump, and near the knee joint This has not yet been removed. The general health of the patient is now good, though the control of the vesical and anal sphincters is impaired to such a degree that there is frequently slight incontinence of urine, and sometimes difficulty in controlling the bowels

THE PRESIDENT, DR. T. W. HUNTINGTON, of Sacramento: The patient, who is here, will, I hope, be inspected. He seems to be a very excellent example of this affliction and a fair sample of what can be done by painstaking, continuous care The question of early interference does not cut any figure now. I hope the case will be carefully examined, and the paper discussed

DR. THOS ROSS, of Sacramento: I have seen only two cases of this kind before seeing the present one. Of these, in one the sac ruptured and meningitis set in In the other, there was no rupture of the sac, and the child died. When I noticed that this boy had the same affection, I gave a very unfavorable prognosis. I thought the child would only survive a short time, and that supporting and careful handling was all that could be done. It seemed to me when Dr. Lawhead was reading about the ulcers, that they were partly due to anesthesia of the limbs, and that it was owing to the consequent exposure to injury or traumatism and the low vitality and poor nutrition that those ulcers progressed as they did

DR H. D'ARCY POWER, of Sacramento: I have seen three of these cases—one in my own practice, which died soon after birth; the others living about three months The interesting point is the nervous condition. I am inclined to agree with Dr. Lawhead that the lesions of the feet are purely trophic. It is pretty well settled that injuries to the ganglion are followed by trophic changes. As to the distribution of the anesthesia, in many motor paralyses we find that anesthesia and motor disturbances are not coëxtensive.

Dr G L Simmons, of Sacramento: In my experience these cases are exceedingly rare Perhaps a dozen cases in all have come under my observation, in hospital and private practice, and the results have been unsatisfactory. I have seen three cases in Sacramento which were treated with injections; the last one I saw a few years ago, in connection with our President, Dr. Huntington, the injection used being compound tincture of iodine. In that case the sac was so thinned by the natural course of the disease, and being as large as my two fists, there was danger of its breaking before the injections were attempted. That child had lived about six months. I think if I had another case, and saw it at the time that this one was, after two or three months, I would attempt what I have seen on two occasions, in hospital observation. I would incise the sac, let out the fluid, and tie off the sac, and treat it in a general antiseptic way. I believe that, in the proportion of cases so treated, half of them have been successful.

Dr Lawhead, of Woodland: The question raised by Dr Ross, has been answered by Dr Power, in his explanation that these ulcers are trophic in character The case was so sluggish and obstinate as to almost defy treatment. I do not think it is difficult to understand why these ulcers are sluggish in character when we concede that they are, primarily, dependent upon the nervous trouble As to the extent of the anesthesia, I am, unfortunately, not prepared to answer specifically. I can state, however, that I was able to remove fibrous growths from the stump without the use of an anesthetic, and with no significant pain to the patient. The skin and the tissues above the knee joint are perceptibly sensitive. In this patient you will find a hyperesthesia above the lesion and an anesthesia below that point. The muscular tone is almost naturally preserved, which, of course, can be explained by the conditions already mentioned.

Typhoid Fever.—F. K. **Lord**, of Brownsville, read a paper upon this subject. He said in the present day this disease still continues to defy treatment, and while some physicians claim to abort it he had never succeeded in so doing. He believed that there were many types of the disease and therefore a routine treatment was not applicable to all of them To illustrate, some years ago he had succeeded a physician in a case of typhoid fever. The patient, a young man, had been quite ill for about three weeks There was high fever, marked delirium, subsultus and tympanites His predecessor in the case was a man of routine treatment. Upon learning that the bowels had not moved for some time and, being informed of the line of treatment already pursued, the speaker immediately proceeded to give a high enema of warm water to which had been added two drachms of turpentine, suspended in the usual way. To his surprise the patient soon passed twenty-eight No. 200 capsules of Venice turpentine which had reached the colon unchanged. As this treatment had been pursued for some time he deemed it best to repeat the enema which resulted in the passage of another large batch of capsules For two days subsequently enemata were continued with a total result of sixty capsules. Subsequent daily enemas brought away large quantities of powdered charcoal and bismuth which had also been taken for some time As a result of unloading the intestinal canal of this mass, the tympanites disappeared and the delirium diminished He believed he had recognized three distinctive types—bilious, nervous and idiopathic The first variety was characterized by intense nausea, vomiting, constipation, great prostration and severe headache. In such cases he believed the intestinal lesion was of secondary consequence. The nervous type was distinguished by great restlessness, coma vigil and wild, almost maniacal, delirium; no looseness of the bowels, tympanites or nausea—food being well borne and the nervous system receiving the full force of the onslaught The idiopathic variety was distinguished by well marked and extensive intestinal lesions, a low state of the nervous system, and great prostration developing early in the attack In treatment he generally used the high enema, keeping the bowels unloaded and relieving distension, as far as possible. Another point of importance was the frequent examination of the bladder, as in many cases this cannot be entirely emptied and, if distended, the patient will always be restless. He believed hydrotherapy was the sheet anchor to reduce hyperpyrexia, while it tranquilized the patient, relieving the nervous and vascular excitement.

Dr. A. M Henderson, of Sacramento: I have lately been investigating the cause of typhoid fever. It can be summed up in a few words, namely: the water supply is the only source of infection. There are a few authorities who claim that infection is produced in the same way as in tuberculosis, by drying of the fecal excretion and by its being taken up in the room by the respiratory apparatus and then passing into the intestinal tract. However, it is not a common source of infection The chief source is certainly through the water. Of course the washings of soiled clothes may be carried into the water supply. Closets, the discharge of which contaminates a neighboring well, are a common source. Ice cream, even, may be a source of danger through infection of the milk, indirectly from the water used to wash the cans, and, milk being a favorable culture medium, the germs will live even in spite of the freezing. However, the common source of infection is the public drinking water, and it is probably the cause of the prevalence of this disease in Sacramento at the present time I do not know that we can enlarge on the subject, as when we have said this we have said all. I shall not refer to the diagnosis of typhoid during its early stage, as often times it is a difficult matter to differentiate between typhoid and pneumonia and typhoid and malaria. The blood test now used in the larger cities has been quite generally accepted. In addition to that, an examination of the blood for malaria plasmodia may be made

Dr H D'Arcy Power, of Sacramento: I would like to say, that while I agree with the last speaker, that there is no doubt as to the water supply being the chief medium, and while it seems to me that apart from that and apart from the possibility of infection from dry excrement, I think, considering how seldom it is you have a second case in the same family, and while I say it is the chief cause I doubt whether the whole question of etiology is summed up in the water supply I remember, in a district in the city of London which was supplied by filtered water, typhoid was confined to a small area The surrounding people drank the same water, and yet in that particular street or streets there was a condition of typhoid endemic Every two or three months I would have a case there, while there were none outside. I investigated the question of water supply and I found the drinking water to be the same as that used by other people, and exactly the same water, so I could not attribute those cases to the water supply. That opens up a possibility of some other field

Dr Henderson, of Sacramento: Dr. Power's remarks remind me of the case in which a number of students were attacked with typhoid fever. It happened at a banquet where they were served in courses The physicians who investigated the matter took up first the water supply, but could not find any cause; they then took up the milk supply and found no reason there; finally they came to investigate the oysters Now the oysters had been planted at the entrance of the fresh water into the salt, which has a peculiar effect upon the oysters, improving their condition. On investigating this supply of oysters it was found that the river water had been infected with typhoid and the oysters had proved to be a favorable culture medium and the source of infection of these very students. They, of course, lived in one section It is possible that the epidemic referred to by Dr Power may be accounted for in a similar way. In regard to emanations from sewers, I think germs are scarcely ever carried in moist atmosphere; they are carried in a dry condition

Dr. Thos Ross of Sacramento: As regards typhoid fever, it is demonstrated as clearly as anything can be that the water supply is the chief cause of typhoid, and that while it is possible for a person to become infected through other means than by water, infection in that way is exceedingly exceptional. I believe, too, that the source of the infection of typhoid in the water supply of Sacramento is capable of demonstration on investigation. I think if the sewage that runs into the river from the cities above Sacramento was investigated it would demonstrate the source The prevalence of fever now in Sacramento is undoubtedly due to infection of the water The reason why some people who drink this infected water are not themselves infected is that they have greater powers of resistance than others The system does not appear to be in a favorable condition for the reception and multiplication of the bacillus. We do not expect that every soldier who goes to war will get shot, nor do we expect that every person who drinks infected water will have typhoid fever I wish to emphasize the expression of Dr. Henderson, that the source of typhoid fever is in the infected water supply—infected rivers, wells, etc

Dr. M. W. Ward, of Woodland: I have had two cases within a year and I have tried to ascertain the source of infection by accurate diagnosis We all drink the same water in Woodland, and I could not trace it to the water there, although a great many of us really drink sewage We talk about its being purified by the earth, but it is a very dangerous thing to depend upon water being purified—freed from bacilli—whether in the soil or in water. Typhoid is of rare occurrence in Woodland. We have a great many cases in the country, but not in town. I have had two cases which I am satisfied were typhoid fever, and I know other doctors who have other cases. I noticed that all these cases were living under unhygienic conditions; the flies were very thick on their tables, and I wondered whether flies had anything to do with typhoid fever. These flies, we know, will light on excreta of all kinds, and if we let flies into our dining room we can expect to have typhoid fever, as flies will carry it from where the disease has been

Dr G L. Simmons, of Sacramento: As regards the etiology of typhoid, I think the conditions that obtain here now and which the old authorities have mentioned and elaborated, that is, a low water level, is productive of fever. Whenever there is a low water level in a section, cases of typhoid are more apt to occur, and the relation of this condition to epidemics is quite marked The reason for that is to be found in the general health of the community being somewhat undermined. The ground exhalations, as in the case of Sacramento, influence all of us, to a certain extent, particularly this year when the rainfall is only about half of what is usual. It is well known that in a city of twenty or thirty thousand, that until quite recently relied entirely upon earth vaults, the soil, to a certain extent, must be permeated with decaying animal matter. This is not so bad when there is a large amount of water, but when, as is the case this year, the exhalations are almost constant it has a very bad effect I doubt if there is a person in Sacramento who has got a common cold who does not find it difficult to get rid of that cold. Those that would at other times be of a mild character are now apt to be of a serious nature. In explanation of Dr. Power's statement, it may be possible that in the section he speaks of there may have been more filth, more old water closets—more deposit which would generate the infection through flies, as mentioned by the last speaker Of course, we all believe in the germ theory of typhoid. We have had that under discussion in our medical societies before the bacillus was discovered, and, while we could not define it, we believed in its existence. Now we know that, in a majority of cases, it is due to the water. In a few cases, as mentioned by Dr. Henderson, it is due to the food, and I believe very often to the milk supply. We have seen in Sacramento where water from an infected well was used to wash the milk cans and the distribution of milk from this source was followed by an outbreak. Persons served under these conditions would become victims if susceptible to the growth of the germs.

Dr. W. E. Bates, of Davisville: I agree with Dr. Simmons in the idea that next to the water supply, the milk supply is the main source of infection. You will all remember that a year and a half or two years ago they had quite an epidemic in Oakland, one hundred and fifty cases in six weeks, and they traced every one of them to the one source—the milk supply. It was found that the cows drank of very filthy water, which was loaded with typhoid germs. Whether the milk was infected by the cows drinking it, or whether the milkman diluted it with the water is a question. I believe the latter was the correct theory. I had 15 cases in one month in the east section of this town two years ago, about this time, and I became satisfied that it was due to a stream of water from which that section became affected. Last year I had four or five cases again in that same neighborhood.

Dr. C. W. Jones, of Grass Valley: Eight years ago we had 28 or 30 cases in one season, and since that time we have had considerable malaria, with a little typhoid. I think the reason is that many of the wells have been discarded and mountain water used. I attribute to this the decrease in typhoid, but I cannot account for the increase in malaria.

The President, Dr. T. W. Huntington, of Sacramento: It is a significant fact that in cities supplied with pure water, typhoid fever occurs rarely. A death rate of two to every 10,000 inhabitants is said to be permissible on the ground that there will be a certain number of cases imported into every city. Recently F. L. Hoffman, in the *Sanitarian*, has entered into a very suggestive calculation, showing the number of deaths in cities having an unprotected water supply as compared with what he regards as the permissible death rate. He shows that in seven of the largest cities in America, from the years 1870 to 1894, there were in these seven cities 47,574 deaths. This number exceeds the normal death rate by 27,571. It is apparent that sanitary bodies should have every facility afforded them to the end that they may control the water supplies of large cities. Massachusetts and Ohio already have adequate laws dealing with this subject. For instance, in Massachusetts no water supply for a city can be contracted for or constructed until the State Board of Health has examined into its conditions and given its approval. The disposal of sewage is also subject to the same restrictions. With regard to the treatment of typhoid fever, I accept no abortive measure. I believe in no sort of treatment. A certain class of cases will occupy three weeks, another class 5, 6, or 12 weeks. I have alluded to the cold water coil as an adjunct in the treatment of this disease. Wider experience during the past season with this apparatus confirms me in the belief that it is of the utmost value, and that of all measures for the controling of temperature, it is most efficient. Since I began its use, my cases of typhoid fever have been made extremely comfortable by it. I have not seen the anorexia. I have never seen a case of typhoid vomiting nor of persistent diarrhea, nor of insomnia, nor of delirium. Occasionally there will occur a hemorrhage from the bowels, but I have not seen a fatal hemorrhage in recent years. I believe also in the use of clean water applied directly to the skin in the form of baths, and I regard colon flushing as of extreme value in certain conditions. The coal tar products have their place in this relation, but I by no means rely upon them. The rule which is universal and without exception in the management of typhoid fever is to keep the temperature at the lowest possible point within the bounds of reason.

Dr. Henderson, of Sacramento: I can name seven or eight cities in which the death rate would be less than one to ten thousand.

Dr. Huntington, of Sacramento: What were they before the improvement in their water supply?

Dr. Henderson, of Sacramento: Fifty to one hundred thousand.

Dr. F. W. Carpenter, of Grafton: I live on the Sacramento River, 20 or 25 miles above Knight's Landing, and we have not had any trouble. My patients live on the river, and we have a cleanly town. We have a pump on the front street of the town and it derives its source from the river. The streets are irrigated from this pump. We have a dozen other pumps which are supplied by wells and are being used to irrigate the street, and I will say that I have not had a single case for over two years. I have had two cases in three years. The boys in our community—fifty at a time—bathe in the river, on both sides. I am inclined to think that the source of typhoid germs must be from sewage in large cities. I take a good deal of interest in Sacramento, and if you have any typhoid bacilli I want you to know that it does not come from where I live, as we have none.

Dr. H. D. Lawhead, of Woodland: Dr. Carpenter's experience is quite different from mine, when I practised in the same field. I have observed that in the fall of those years when the water has been low during the earlier months the people suffered from typhoid fever, Three or four years ago, before the arrival of Dr. Carpenter, I saw at least six cases of pronounced typhoid in this district, and that particular fall the river was low. I have observed that in years when we have winters and springs and summers when the people have, imperatively, to climb into the trees, that we are more healthful than during a dry season, and we are especially free from typhoid fever. I think we ought to allow ourselves to be strongly impressed by the idea as set forth by Dr. Simmons on this point. I shall watch with some interest the behavior of Dr. Carpenter's patients in the next three or four months.

Dr. H. D'Arcy Power, of Sacramento: Some investigations were made about two years ago as to the influence of sewer gas in typhoid and other fevers.

It seems to be pretty well demonstrated that germs do not emanate from a wet atmosphere. There has long been a public impression that sewer gas was the cause of typhoid and other fevers, and this belief has received some justification in an indirect manner. Recent experiments have shown that animals whose resisting power render them immune to injections of various bacilli under normal conditions, were no longer immune when their vitality had been reduced by placing them in an atmosphere of sewer gas.

Dr. E. E. Stone, of Marysville: We rarely ever have a case of typhoid fever in Marysville. We have pure artesian water from wells 175 feet deep. The few cases we have had were found on the outskirts of the city, people who use water from wells only 30 feet deep. Further out we have had cases of typhoid fever. We have malarial fever with a low condition of the system, but no genuine typhoid cases, and I think this is on account of the water supply.

Dr. Simmons, of Sacramento. What was the condition before the deep wells were used?

Dr. Stone, of Marysville: These have been used for some thirty years—in fact, they have always been used since along in the sixties. Prior to that time there were some, but only a few cases. These wells are cased to a depth of 125 feet.

Dr. Bates, of Davisville: I am a firm believer in antiseptic treatment in these cases, and I believe we can do just as well or better than the Woodbridge treatment. I would like to ask if any of the members present have tried it and what has been their experience.

Dr. Ross, of Sacramento: I have never confined myself exclusively to it. I used the tablets which are antiseptic, merely because they were handy, and I am well satisfied with the antiseptic treatment of typhoid, so far as my experience goes. However, as regards the Woodbridge treatment, you cannot convince a man who does not believe in it, and a man who does have good success with it will give evidence in accordance. I can say that, as far as my experience goes, I believe in it.

Dr. F. K. Lord, of Brownsville: I think the consensus of opinion is that typhoid fever is due to the water. I had two cases last winter, a young man and a young lady; one from one side of the mountain and the other from the opposite side, and both used water from the same spring. I tried to trace the cause, and the only conclusion that I could arrive at, was that both bought corned beef at the same store, and ate it.

The Application of Photography in Medicine.—**Dr. H. D'Arcy Power**, of Sacramento, read a paper upon this subject. [Published at p 347.]

The President, Dr. T. W. Huntington, of Sacramento: Photography, as explained by the author, has opened up a new field, one that has not been spoken of before. I wish to speak of its adaptability in that class of cases where the physician is discredited for the amount of good he has done. I have seen the case of a woman who complained of pain. She had an idea that she localized the pain in the lower lumbar vertebræ, and insisted upon it being there from the moment she received the injury. At another interview, six weeks later, she localized the same pain at a point seven inches above that vertebræ. It was from that case that the suggestion came to me.

Dr. John Fife, of Red Bluff: I am not at all familiar with the subject. It seems feasible and I have no doubt but it would be a great help. I have, however, no knowledge of photography.

Dr. Power, of Sacramento: Should any one desire information not contained in the paper, I shall be happy to afford it. Its chief value is in skin diseases. It often happens that in very bad cases of skin disease, patients will deny the value of what you have done for them. I intend to record my skin cases in this way.

The Doctor of To-day.—**Thos. Ross**, of Sacramento, read a paper upon this subject, which he said was a comprehensive one. He proposed to consider it under the following heads: (1) The doctor of yesterday. (2) The necessary requirements of the doctor of to-day. (3) The impositions practised on the doctor. (4) The difficulties he has to encounter. (5) His services unappreciated by the public. (6) Good things said of the doctor by eminent men. Under the first caption the author reviewed the status of the medical profession at a time when a high degree of scientific attainment was not expected from the doctor. At that period his remedies were few, but he had acquired considerable skill in their manipulation. In the present day very much more was required of the doctor. He must come to his profession well qualified and with a fair preliminary education. Deficiency in general education materially handicapped the physician. Poor orthography was an evident indication of ignorance. No other profession or class of men bore such impositions at the hands of the public as the doctors. The State, the people, and the corporations imposed upon the doctor by obtaining his services gratuitously or requiring that they be rendered on the same basis. Prominent amongst the difficulties that the doctor has to encounter, is prescribing by druggists, and this is further increased by the services offered by hospitals, general and special. It is estimated that at least one-third of the persons who receive gratuitous medical services from dispensaries could pay a reasonable fee for these services if they chose. Under the head of unappreciation of the doctor's services, the author instanced the time and knowledge devoted to the good of the public, which, in the domain of preventive medicine, tended to reduce his prospective income. The author closed by referring to some of the good things that had been said of the profession, by Cleveland, Gladstone, Bayard, Talmage, and others, who had apparently estimated the medical profession at its true worth.

AFTERNOON SESSION.

Operative Treatment of Inguinal Hernia.—W. J. HANNA, of Sacramento, read a paper upon this subject. He said all plans for the radical cure of inguinal hernia were shown to be of uncertain value until transplantation of the spermatic cord and suturing of the pillars of the ring, in layers, was suggested and carried out by Bassini, and, in a different form, by Halsted Even these plans were often attended by failure on account of using non-absorbable sutures. The employment of these was often followed by slow suppuration under which relapses occurred. Even though the wound might heal successfully, in a number of months the suture would be extruded. The ideal suture is that by which the parts are held in apposition for a length of time, and which then disappears by absorption The kangaroo tendon, as prepared and used by Dr. H. O. Marcy, seems to meet all these requirements. The author then discussed the details of the Bassini operation, dwelling also upon Halsted's modification of it, and describing the operation by Kocher, which was admissible in cases where the sac was not too large nor its walls too thick. In selecting the proper method the surgeon must be governed by the individual case. The risk entailed is small—the mortality being less than 1 per cent. Relapses had been found to occur in less than 10 per cent. of all the cases.

DR. J. H. PARKINSON, of Sacramento: I have had the good fortune of listening to Prof. Macewen, of Glasgow, on this subject. His reputation in this connection is world-wide, and he has written a great deal upon it. His is a very elaborate and painstaking operation, one which seems to me is exceedingly troublesome, and that is not infrequently wrongly done by some, and in spite of what its distinguished author says is unnecessary. Other difficult procedures have been advised by distinguished operators, but the natural effect of these as of all hernia operations is the removal of the sac, the principal source of trouble. It is quite certain that *technique* in these operations is most important. Success or failure depends upon it, and the utmost care is necessary, not so much on account of the life of the patient as the success of the operation. Some years ago these operations were approached with the same hesitation as all abdominal operations. Modern antiseptic surgery, however, has obviated these difficulties. I believe that the more elaborate procedures are unnecessary, and certainly in the hands of inexperienced men they are better left alone.

THE PRESIDENT, DR. T. W. HUNTINGTON, of Sacramento: I have been somewhat surprised at finding so many men who have no knowledge of the value of the operation for the radical cure of hernia—no knowledge of the *technique* and no special knowledge of the results to be attained by it. I think there is an estimate made, somewhere, that one person in sixteen is afflicted with rupture, and many who lead useful lives as bread winners are going about with more or less difficulty. The moral effect of a rupture is worth considering. A child at the developmental period, from a year to six, ten, or fifteen, suffering from hernia, when brought in contact with his fellows in a way to compare his merits, finds himself at a disadvantage, and soon learns to concede his disadvantage and inferiority. It is decided by those who have studied the matter that the operation is justifiable, but it is upon higher grounds I should act, viz: that a person wearing a truss can and should be relieved from it. I want to speak a few words upon the *technique* of the operation. First. as to the suture material, I thought the kangaroo tendon possessed superior advantages, but I have changed my views and practice in that respect, and have abandoned the tendon of Marcy. I now use chromacized catgut, which is perfectly safe when buried. With regard to dissection, it is very easy if one recognizes the true relations. There is one little point worthy of mention, that is, the relation of the spermatic cord to the sac. For a long time we used to search for the sac with a good deal of difficulty and groping, and where the sac was small, attenuated, and thin, I regarded it as a prize when I picked it up. When the primary incision is made and the cord identified, it will be found that the cord always lies closely adjacent to the sac. Having identified the sac it should be carefully dissected. Be sure that it contains no contents, and grasp it with forceps. My method of closing the sac is this: A long suture is armed at both ends with a needle; the needle is inserted at one margin of the sac, the suture drawn through and a knot tied at the middle. Both needles are then passed back and forth through the same puncture until the opposite side is reached. Then cut off the sack above the suture line, remove the clamps, and tie the ends of suture, making a purse string of it. This absolutely insures closure of the sac. The necessity of preserving an aseptic condition in the wound is apparent. If you get suppuration you get destruction of the tissue, a weakened wall, and a possible recurrence. Out of 240 cases on which I have operated, I do not know of but eight or ten recurrences. But most of these are much better than before the operation. Close attention to details in preparation is important and perfect integrity of suture material is essential to success. Recently I have adopted the silver foil dressing in all my hernia operations as well as in other aseptic cases, and have been more than pleased with the results attained under it. While I do not believe all will heal perfectly, I do believe that those who use silver in clean wounds will be repaid by a larger percentage of perfect recoveries than by any other form of dressing. Now as to operating upon elderly persons, I have come to think that where the hernia is a menace to life, an operation is demanded. In extremely feeble patients I would not advise it unless it was a matter of life and death. Within the past two weeks I operated upon a man 74 years of age whose heart was in bad condition, with a mitral murmur. The condition of this patient was extremely bad, he having carried a large scrotal omental hernia for over twenty years. The circulation of the incarcerated mass had been cut off and it had become gangrenous. The entire mass was removed. The patient made a rapid recovery. Age or other infirmity need not preclude the radical cure of hernia.

Dr. M. W. Ward, of Woodland: Did you ever see a case cured by injection?

The President, Dr. Huntington, of Sacramento: I have had, perhaps, as much experience as any one in the room. I have operated on a considerable number of cases that have been alleged to have been cured by injection. I am aware that there are people going about the country who are said to be cured, but I have little faith in what they say. I believe these cures are only temporary. Any one who has seen a hernial dissection knows how difficult it must be to insert a needle into the sac and do no serious damage to other parts. Quite a number of deaths have occurred after this procedure. In any event I regard the risk as greater, and the chances of cure far less, than after the open operation as now done.

Dr. Hanna, of Sacramento: About five months ago I was asked to assist at an operation for the radical cure of hernia, by a physician who had used the injection method, after which the patient's temperature ran up to 103° F. Later the case got along very well and was apparently cured, but, upon walking about, the hernia returned. The case was then operated upon and promptly cured.

The President, Dr. Huntington, of Sacramento: I do not believe any one has a right to prepare catgut without a laboratory and permanent assistants, otherwise there will be lapses in the reliability of the gut. I have seen some lately at the Lane Hospital, San Francisco, which is possibly superior to anything I have ever seen. I am now using catgut which is made by D. B. St. John Leavins, of New York. It is an excellent article, and so far as my experience has gone, it has been a success.

Puerperal Infection.—W. E. BATES, of Davisville, read a paper upon this subject [published at p. 337].

DR. H. D. LAWHEAD, of Woodland: I recall especially one case in my practice, and I appreciate fully, as the author has stated, the great importance of early and radical treatment to combat the virulent character of the poison. I have not had any experience with the treatment by continuous drainage, but, under favorable circumstances, it will no doubt be very helpful. I think women are sometimes responsible for these calamities in the way they treat themselves, and by such practices as set up the trouble. In purulent cases I use peroxide of hydrogen. I was afraid to curette in my early cases, but more recently I do so, early and radically. I think there is always occasion for it where there is any debris left in the uterus. I have not had any experience with antitoxin or antidiphtheritic serum in puerperal cases. I think it might be useful in that disease, and that its use is justifiable.

DR. S. E MORSE, of Dixon: My experience in treating this disease is negative. I do not think I have had a genuine case, consequently I cannot speak from experience. I am convinced, however, of the great importance of prevention. After it does occur every possible means to eliminate the poison from the system, by antiseptic treatment, should be resorted to. I think in these cases any carelessness or want of cleanliness or caution on the part of the attendant is inexcusable. A man who goes to a case without thoroughly preparing himself to treat it in an antiseptic manner is guilty of a criminal act. Before entering the room of a woman in child-bed he should disinfect himself, as well as seeing that the woman and her bed and all appurtenances are thoroughly sterilized, with a view to preventing any disease that would result from sepsis. Some one has recommended the use of oil cloth in the bed to catch the drainage. The new plan is to have two, one being left, with a sterilized sheet over it so as to obviate the necessity of disturbing the patient any more than is necessary. Sometimes we are called to cases hurriedly and unexpectedly, and it is very difficult and impossible to take all these precautions. We have to take things as we find them. Sometimes we get to a house where it is impossible to get a clean sheet; it is one of the unheard of things. What is a man to do under such circumstances! He has simply to do the best he can. When reading of antisepsis, sometimes it makes us smile, we who have practised in remote districts and cañons, and have visited cases in hovels.

DR. E. K. CALDWELL, of Winters: I would like to ask for information concerning a class of cases which are not frequent—cases of infection which have taken place previous to delivery, cases in which I believe there was no instrumental interference. I have one on hand at present where a woman miscarried at about seven months. I do not think there was any instrumental interference Infection must have taken place previous to the abortion. I had another case a number of years ago—a case of twins There had been some hemorrhage for two or three weeks. When I was called to see the patient, symptoms of blood poisoning were very marked, and she died subsequently, following a chill. I would like to ask how, in the opinion of the Society, those infections take place? and whether there is any means by which they may be averted.

DR. J. H. PARKINSON, of Sacramento: In cases of abortion it is safer to discredit the stories of the patient unless you have a pretty good knowledge of the individual. As regards puerperal fever and its treatment, my experience has been limited, but I have seen it. I recall but two cases in which I have needed to use intrauterine medication. In common with other practitioners, I have seen a rise in temperature and an occasional chill after labor, the symptoms readily subsiding under proper antiseptic measures and vaginal douches. As regards the main question—puerperal infection following delivery—the proper thing is prevention, as when once established it is a virulent disease and one that is exceedingly difficult to handle. I feel that when, with energetic treatment the symptoms subside, you are fortunate, but if you meet the right kind of case it will be different; there the infection is so virulent in character that the system is overwhelmed by it. I recently have had an unfortunate case. The patient was in her fourth labor, she had had a good pregnancy in every way, there being but very little disturbance, and a remarkably rapid labor with a trivial laceration. During the labor I made but one examination and that a very superficial one; the head was then on the perineum and the membranes were intact. I took the usual methods of disinfection. The patient was surrounded with every necessary; a trained nurse was also in attendance. There did not appear to be any reason for, nor any source of, infection. I repaired the laceration with silkworm gut from the same lot that I had used successfully on other occasions. The patient went along all right until the fourth day, when she had a slight chill, followed by a rise in temperature to 100° F. Vaginal douches were used and the temperature subsided to 99° F. Things ran along in this way until the 9th day, when she had a violent chill followed by a temperature of 103° F. The history of the case from that time on was: One to two chills in the 24 hours, with a very high temperature, which at one time reached 106° F., and frequently 105° and 104°. Antipyretics, sponging and the ice coil were used to keep down the temperature. The uterus was explored, not for the purpose of curetting, but as a matter of precaution. I was satisfied, however, that nothing could have been left as I had delivered the placenta and had examined it. Nothing came away subsequently. Permanent drainage, as suggested by Dr. W. A. Briggs, with the identical drain presented here, was used in this case, for over two weeks until all discharge had practically ceased. After the second chill, when the temperature was high and the case obviously a violent one, I determined to use antistreptococcic serum. It was quite difficult to procure the serum; finally one vial was obtained but the number of units was not given, simply the contents in cubic centimeters. I believe this treatment ought to be a success, but we must remember in dealing with it that infection may be from other sources as the bacillus coli commune. In this case I feel that the streptococcus was the agent at work. I gave in all, six injections; the first four injections were given every twelve hours. The first serum used was Milliken's, ten cubic centimeters. I could not get any more for twelve hours, and then I procured some of Parke, Davis & Co.'s, which had been on the market six months, and which was put up in large vials of 30 cubic centimeters. I used ten c.c. in one injection. I then obtained some of Parke, Davis' serum three months old, of a new make, each bulb containing ten cubic centimeters; two of these were used. I next finished the original vial in two doses, and finally used one new bulb of serum -Parke, Davis & Co.'s—ten cubic centimeters. Regarding the constitutional effect, I believe it was favorable. The patient expressed herself as being better and the temperature did go down; and there were some symptoms of improvement. The local effects were no graver than after the use of diphtheria antitoxin. There was one induration but it was not painful, not any more so than I have seen in cases of diphtheria, and I have had it used on myself, and am able to testify as to what it feels like. The antiseptics used were lysol and glycerine, in the uterus, and formalin as a douche for the uterus, lysol for the vagina, and lysol as an external application for the vulva. The formalin was discontinued as it affected the mucous membrane. It was necessary, for the last two weeks, to feed by the rectum. In spite of all treatment the woman died in five weeks after delivery. I had the assistance of Drs. W. A. Briggs, White, and Baldwin. I cannot see that anything was omitted in the matter of prevention. I regard it as one of those unfortunate cases that a man will meet sometimes. As regards the method of precaution and prevention, I agree with everything that has been said. We often see women who have very offensive discharges and who apparently ought to have infection, and who do not. Owing to the depth of the uterus and its irregular cavities, you need a long curette; the ordinary curette is useless. I have a large one especially for that purpose It is, however, a question whether it is better to disturb the uterine surface, as, if you do not do your work effectively, you simply make a number of wounded surfaces. I believe the Briggs drain is a good thing, for two reasons: (1) There is no disturbance of the patient in using the intrauterine douche. (2) The nurse can administer the injection with certainty and safety. As regards douches, my practice has been not to use them either before or after labor, unless compelled to do so. If the woman is in good condition, it is best to leave her alone. I believe that, in the average case and with the average nurse, in general practice, it is better not to use douches unless you can attend to the matter yourself.

Dr. Thos. Ross, of Sacramento: Dr. Bates has given us an excellent paper. As he has spoken of the use of protonuclein in this connection, I desire to say that I have had one case of puerperal fever within the last five years, and I think in it I received considerable benefit from the use of protonuclein

Dr. C. W. Jones, of Grass Valley: About five weeks ago I had a case similar to that reported by Dr. Parkinson. My case lived about five weeks, and terminated fatally. The history is as follows: I was called early one morning to deliver a woman. Before going to attend her I washed my hands in a solution of permanganate of potassium, then in a solution of oxalic acid, and finally in sterilized water. When I arrived at the bedside of the patient I again washed my hands in a bichloride of mercury solution. The patient had a comparatively easy time, with the exception of a slight laceration of the perineum. I cleansed the parts, stitched the laceration, and left my patient feeling comfortable. In the afternoon I had to make a trip in the country, and my father called to see the patient and found that she was having after-pains, which were quite severe He examined the vagina and uterus, removing a clot which gave her ease. My father had taken the same precautions as I did in regard to antisepsis. He then washed the uterus out and left the patient. About the third day she had a high fever, so I began to think of septic trouble. I immediately curetted the uterus, but found nothing. Two days later I curetted again, but could find nothing in the cavity of the womb. As malaria is prevalent here, I thought that quinine might help my case, but it did not. As the case progressed it resembled typhoid very closely, but I still thought it was of a septic nature. Several doctors were called in consultation, and many authorities on such subjects read, and considerable medicine given, but still my case grew worse. Once I had a glimmer of hope. I injected into the muscles of the thigh 20 minims of creasote and camphorated oil. The temperature fell from 106° F to 99°, but it would rise again, to fall after each injection, but not greatly. The patient said she felt better after each injection, but she finally died from infection, due, I believe, to the laceration of the perineum.

Dr. John Fife, of Red Bluff: I was glad to hear of the syringe being discarded, because I once had a case of puerperal sepsis which I attribute to its use by the nurse in attendance. I think that since I discarded the syringe I have had less fever in my labor cases. I was of the opinion for a long time that puerperal sepsis was a preventable disease. I think that in a great number of cases infection is carried by the physician, due to carelessness in cleansing his hands. I have seen puerperal cases in consultation with men who were careless in that regard . Of course cases will arise where the source of infection cannot be determined, as in Dr. Parkinson's case, but generally if a man is as careful in cleansing his hands as he would be in a serious surgical operation, there will be very little danger, and the case will go on all right.

The President, Dr. T. W. Huntington, of Sacramento: The great danger of infection is from the hands and finger nails It has been demonstrated that a much less percentage of cases occur where sterilized gloves have been used instead of the bare hands Some of the leading hospitals endorse this manner of procedure by physicians and nurses.

Dr. F. K. Lord, of Brownsville: Would the sense of touch be as acute if you should wear gloves, as it is necessary to have in many examinations?

The President, Dr. Huntington, of Sacramento: A prominent surgeon of Boston has confessed to overlooking a gall stone in a gall-bladder operation, because of the use of gloves, and in delicate operations he used to discard them. In obstetrical practice delicacy of touch is not so important. The use of the hands, until a very late stage of labor, is not essential. I used to be impressed with the idea that ten examinations were necessary where one would do. When it comes to a matter of supporting the perineum, the gloved hand would do. It has been said by those who have used them, that thin cotton gloves are easily sterilized and serve an excellent purpose.

Dr. W. E. Bates, of Davisville: Regarding Dr. Caldwell's inquiry, it was, probably, the infection that caused the miscarriage. I have been of the opinion, that most of you are, about physicians and their puerperal cases until I ran across this case, and saw a number of others in practice, with different physicians in our neighborhood. I was told by one man that there was not a physician in Woodland who had not had a case of puerperal fever, and our cows and mares were dying with it—due, perhaps, to some local disorder. The idea of gloves in obstetrics is good. They are made exceedingly thin—of the finest rubber possible—and the sense of touch is not greatly impaired. It seems to me that there would be sufficient sense of touch left to enable one to use the gloves with precision. As to miscarriages, I never ask how they have been produced, unless I find some lacerations or some wound in the os, then I plump it right at them. I want to emphasize the case in which antidiphtheritic serum was used. I feel satisfied that there was no diphtheria about that case. After I came home I began to pore through my medical journals and I found several instances where the serum had been used and the case got well, but none of them suggested the idea that it was a diphtheritic infection, nor did any of them say that a bacteriological examination had been made. I would like to urge it upon you that if your case is going to die, it would be well to use the antidiphtheritic serum. I know it saved that woman's life. Speaking of nurses, I had to change my nurse, as I had had considerable trouble in confinement cases due to her carelessness.

Serum Therapy.—A. M. HENDERSON, of Sacramento, in a paper upon this subject, said: Although the germ theory had, for many years, attracted the attention of the medical profession, it had only been during the last decade that Pasteur, Koch, and other scientists, by persistent effort, and with the perfection of the microscope and its accessories and the improved method of staining, had thoroughly established the theory. Bacteriology having explained the cause of infectious diseases and bacteriological chemistry the manner of causation, it remained for the therapeutists to devise a rational and scientific method for perfecting and counteracting the effect of the cause. Antisepsis was given early and careful attention, but this was not applicable to internal use. As a result of further investigation, a new branch was added to chemistry which may be called bacteriological therapeutics. It was found that fresh blood serum possessed an inhibitory influence upon certain bacilli, and further experimentation demonstrated that it was, in some cases bactericidal, and in others immunizing. The production of a serum containing products of the bacilli was a further step, and, as a result, antitoxic serum was produced which, in cases of diphtheria, comes very near being a specific. The author then reviewed the experimental work which had led up to the production of antidiphtheritic serum, and gave the figures indicating a reduction in the death rate by its employment. The manner of its production was also given, and the difficulties likely to be met with in its administration, mentioned.

DR. M. W. WARD, of Woodland: I have used the serum treatment in five cases, one of which died. The case that proved fatal lived in the country and I did not know it was diphtheria until it was too late; when I got there the child was almost dead. I blamed myself for using the serum; I do not think it was right. In the first case I had to use it twice. The child was four years of age. I first gave 1,000 units. There was some improvement at the end of 12 hours, but at the end of 24 hours it was worse than before. I repeated the dose, and after this the child went on to a rapid recovery. A young lady living in the same house was taken down on the fourth day with diphtheria, showing how rapidly the poison worked. The membrane was over her tonsils and palate. I gave her her choice, whether to use the serum or not. I told her that my opinion was, grown people could get well by the old methods—iron, whisky, etc., and supporting treatment. I explained, however, that it would take a long time, and that while the serum treatment would be somewhat painful, it would be rapid in its effect. She consented, and I gave her 1,500 units, and inside of 24 hours the membrane began to come off. There was something about the treatment or the attack that seemed to have a great effect upon her nutrition. She was 19 years of age, and had been troubled with acne for a number of years, and had, she said, treated a great deal for it. Her condition was such that she was bashful about going into society. I noticed that her skin was very yellow at the time, but since then her complexion has cleared up. I had one case on which I was using the serum, and the child broke out in an eruption. I think it was due to the serum. This action on the skin might be the cause of her complexion clearing up. There were seven cases in which

I used the serum to prevent the disease, using 500 units in each instance, and not one contracted it.

DR. C. W. JONES, of Grass Valley: About six months ago I treated two cases with antoxin, which had been on the market for over six months. One case died about the ninth or tenth day, the other lived about six weeks, and died of paralysis of the heart.

DR. JOHN FIFE, of Red Bluff: Since November 1st I have used antitoxin in 20 cases of nasal and laryngeal diphtheria, many of them being quite severe. All the cases I used it in recovered. During my absence, one of the cases which I did not see until the fourth day, the physician in charge told me died of general paralysis. Another case, in about two months after getting well, was taken with whooping-cough—a very severe case—and died in about ten days of broncho-pneumonia. In the cases of laryngeal diphtheria it acted charmingly. In about 24 hours the croup subsided. I found in those cases in which I was able to commence treatment, in 24 or 36 hours, one dose of 1500 units sufficed. In cases allowed to go on for three or four days I had to use three injections, giving 1500 units each time I believe that antitoxin is a perfect specific. Some tell us that in mixed infection it does not work so well. I have not, however, seen any of those cases.

DR J H. PARKINSON, of Sacramento: No doubt all of you have met with urticaria due to serum injections I have met with it frequently in practice, and I must say that in my own case it was very annoying. Except for the after-consequences I would rather have diphtheria. In my case it lasted ten days, and was particularly aggravating on the soles of the feet and the palms of the hands It disappeared almost completely after the use of syrup of chloride of iron, a preparation manufactured by Parke, Davis & Co. This preparation is easily borne by the stomach. While it may have been a coincidence, it is a fact that the urticaria disappeared completely within 36 hours after I began to use it. I have used it since more constantly, and I believe I have seen less urticaria in consequence. As regards the effect of the diphtheritic serum, it seems very much to have the same effect on one as when, after a very close sultry day, there comes a cool south breeze. It lowers the temperature, quiets the patient, and clears the brain. I believe in the serum treatment; it certainly reduces the mortality. As regards a distinction between mild and severe cases, I believe all of the milder forms should be treated as diphtheria. This is the only safe rule. This also applies to membranous croup. Of course the after-consequences would be different in cases of genuine laryngeal diphtheria, but clinically there is no difference whatever. I have long believed that all cases of membranous sore throat were infectious, and I have acted accordingly in their management and treatment.

DR. HENDERSON, of Sacramento: I wish to say a word with reference to streptococcic infection, though this properly belongs to the previous paper. Where there is a general absorption of the streptococcus, unless the serum possesses bactericidal power of greater strength than is generally expected, I should hardly expect in a case of puerperal infection to have anything like as decided and prompt a result as we have in diphtheria from antitoxin

In the absence of Dr. L. J. Tabler, of Anderson, his paper on "Scarlatina" was read by title and referred for publication.

The Alameda County Medical Society and the Post-Graduate Medical Schools.—A communication from the Alameda County Medical Society in regard to free clinics, and also in regard to the admission of irregular practitioners to post-graduate study in regular schools, was read by the Secretary. After some discussion the whole matter was referred to a committee, to report at the November meeting of the Society, the following resolutions being meanwhile adopted:

Resolved, That the California Northern District Medical Society endorse the action of the Alameda County Medical Society in its protest against the admission of irregular practitioners to the post-graduate medical schools of Chicago, New York, and Philadelphia.

Resolved, That this Society earnestly deprecates such action on the part of these schools.

Copies of the resolutions were ordered forwarded to the Alameda Society, and to the schools mentioned therein.

The President appointed J. H. Parkinson, of Sacramento. H. D. Lawhead, of Woodland, and John Fife, of Red Bluff, as the committee.

Place of Next Meeting.—Dr. A. M. Henderson, on behalf of the Sacramento Society for Medical Improvement, extended an invitation to the District Society to hold its annual meeting in Sacramento, and on motion of Dr. W. C. Jones, the invitation was accepted.

There being no further business the Society then adjourned to meet at Sacramento, on Tuesday, November 8, 1898.

New Members.—At the different sessions the following were duly elected members of the Society: F. B. Carpenter, Z. T. Magill, S. E. Morse, H. D'Arcy Power.

MEDICAL NEWS.

LICENTIATES OF THE BOARD OF EXAMINERS.

At a meeting of the Board of Examiners, held June 7, 1898, the following were granted certificates to practise medicine in this State:

Arthur W. Bigelow, San Francisco, Cal.; Coll. Phys. and Surg., Ontario, Canada, Apr. 29, '85; Univ. Toronto, Ontario, Canada, May 15, '86; Royal Coll. Phys., London, Oct. 28, '86.
W. J. Blevins, Fairfield, Cal.; Barnes Med. Coll., Mo., Apr. 13, '98.
John C. Burton, San Diego, Cal.; Barnes Med. Coll., Mo., Apr. 13, '98.
Alfred H. Byars, Fresno, Cal.; Barnes Med. Coll., Mo., Apr. 13, '98.
Thos. J. Crowley, San Francisco, Cal; Med. Dept Univ. Cal., May 17, '98.
Geo. W Dufficy, Sacramento, Cal.; Med. Dept. Univ. Cal., May 17, '98.
James E. Gage, Riverside, Cal.; Coll. Phys. and Surg., Ontario, Canada, Apr. 7, '98; Univ. Queens Coll., Ontario, Canada, Apr. 7, '98.
Chas. W. Harper, Igo, Shasta Co, Cal.; Med. Dept. Univ. Maryland, Mar. 3, '69.
A. C. Heidmann, Santa Ana, Cal.; St. Louis Coll. Phys. and Surg., Mo., Feb. 28, '83.
Friedrich C. Müller, San Francisco, Cal.; Med. Dept. Univ. Cal., May 17, '98.
Andrew W. Morton. Durango Col; Med. Dept. Univ. Tenn., Feb. 23, '92.
J. H. Morton, Dinnuba, Cal.; Marion-Sims Med. Coll., Mo., Apr. 10, '97.
Melville E. O'Neil, San Francisco, Cal., Coll Phys. and Surg., Des Moines, Iowa, Mar. 12, '95.
Curtis H Osborne, Pasadena, Cal.; Med. Dept. Yale Coll., Conn., Feb. 15, '77.
Elizabeth J. Palmer, Los Angeles, Cal.; Coll, Med., Syracuse Univ., N. Y., June 11, '91.
J. C. Robertson, Visalia, Cal.: Med. Dept. Vanderbilt Univ., Tenn., Mar. 30, '98.
T. B. Roche, San Francisco, Cal.; Med. Dept. Univ. Cal., May 17, '98.
Reuben C. Shultz, Los Angeles, Cal.; Med. Dept. Univ City of New York, Mar. 17, '80.
Hugh Walker, Riverside, Cal.; Queen's Univ., Kingston, Canada, Apr. 26, '97.

A license was refused to Frances E. Williams, of Los Angeles, Cal., on the grounds that the college from which she graduated (American Health University, Chicago, Ill.) is not a recognized school of medicine. CHAS. C. WADSWORTH, Secretary.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the U. S. Army (Division of the Pacific) from May 20, 1898, to June 20, 1898.

Acting Assistant Surgeon Robert E. Williams, U. S. Army, now in this city, will proceed to Angel Island, California, reporting upon arrival to the commanding officer of the post for duty. In addition to his duties at Angel Island, he will render medical attendance to the garrison at Fort Baker, California. Par. 5, S. O. 52, Dept. of Cal., May 21, 1898.

Acting Assistant Surgeon W. Hoepfner Winterberg, U. S. Army, now in this city, will proceed to Alcatraz Island, California, reporting upon arrival to the commanding officer of the post for duty. Par. 6, S. O. 52, Dept. of Cal., May 21, 1898.

Acting Assistant Surgeon John F. Minor, now in this city, will proceed to the Artillery camp near Fort Winfield Scott, California, reporting upon arrival to the commanding officer of the camp for duty. Par. 1, S. O. 56, Dept. of Cal., May 25, 1898.

Captain Isaac P. Ware, Assistant Surgeon, is relieved from duty at camp near Fort Winfield Scott, California, and will proceed to The Presidio of San Francisco, reporting upon arrival to the commanding officer of that post for temporary duty. Par. 2, S. O. 56, Dept. of Cal., May 25, 1898.

Upon the recommendation of the chief surgeon, Acting Assistant Surgeon John F Minor, U. S. Army, will, in addition to his present duties, report every morning at the Presidio of San Francisco, for the purpose of assisting the post surgeon in the examination of recruits. Par. 3, S. O. 58, Dept. of Cal., May 28, 1898.

Upon the recommendation of the chief surgeon, Captain Isaac P. Ware, Assistant Surgeon, is hereby relieved from the operation of Par. 1, S. O. 51, from these headquarters. Par. 1, S. O. 59, Dept. of Cal., May 30, 1898.

Upon the recommendation of the chief surgeon, Major Robert H. White, Surgeon, is hereby placed on temporay duty as Examiner of Recruits at these headquarters, and as assistant to the chief surgeon of the department in his duties of attending surgeon. Par. 2, S. O. 59, Dept. of Cal., May 30, 1898.

Upon the recommendation of the chief surgeon, Acting Assistant Surgeon Z. Taylor Malady, U. S. Army, now in this city, will proceed without delay to Benicia Barracks, California, reporting upon arrival to the commanding officer for duty at that post and at the Benicia Arsenal. Par. 3, S. O. 59, Dept. of Cal., May 30, 1898.

Pursuant to instructions from the war department, Acting Assistant Surgeon James R. Gregory, U. S. Army, now in this city, will proceed to Fort St. Michael, Alaska, for duty at that Post, relieving Captain Guy L. Edie, Assistant Surgeon, U. S Army. Captain Edie upon being so relieved, will proceed to this city, reporting upon arrival at these headquarters for further orders. Par. 1, S. O. 61, Dept. of Cal , June 2, 1898

Acting Assistant Surgeon Robert E. Williams, U. S. Army, will accompany Battery C, Heavy Artillery, California Volunteers, to Fort Canby, Washington. Upon the completion of this duty he will rejoin his proper station. Par. 3, S. O 62, Dept. of Cal , June 3, 1898.

Captain T. A. Rottanzi, Assistant Surgeon, 6th California Volunteer Infantry, will accompany Company F, of that regiment, to the Santa Cruz Powder Works. He will apply to the Chief Surgeon of the Department for proper medical supplies. Par. 5, S. O. 62, Dept. of Cal., June 3, 1898.

Captain C. A. Rogers, Assistant Surgeon 6th California Infantry Volunteers, is assigned station at Benicia Barracks, California, and will proceed thereto without delay. Par. 2, S. O. 63, Dept. of Cal., June 9. 1898.

Assistant Surgeon W. M. Van Patten, will take station at Angel Island, San Francisco Harbor. Par. 4, S O. 68, Dept. of Cal , June 15 1898.

Assistant Surgeon E. M. Brown will take station at the Presidio of San Francisco, with 1st Battalion Washington Volunteers. Par. 5, S '. 68, Dept. of Cal., June 15, 1898.

The following named officers of the Medical Department will proceed to San Francisco, California, and report for duty with the expedition to the Philippine Islands: Lieutenant Colonel Henry Lippincott, Deputy Surgeon General; Captain William O. Owen, Assistant Surgeon; Captain Edward R. Morris, Assistant Surgeon; First Lieutenant Henry Page, Assistant Surgeon.

Acting Assistant Surgeon Francis W. Harrell, U. S. Army, will proceed from this city to San Francisco, California, and report to the commanding general of the expedition to the Philippine Islands, for duty.

Captain John L. Phillips, Assistant Surgeon, is relieved from duty at Fort Walla Walla, Washington, and ordered to Alcatraz Island, California.

Captain Thomas V. Raymond, Assistant Surgeon, is relieved from duty at Fort Canby, Washington, and assigned to duty with the expedition to the Philippine Islands.

The order assigning Major Robert H. White, Surgeon, to duty with the Philippine expedition is revoked.

Captain William D. Crosby, Assistant Surgeon, will report to the Major General commanding the Department of the Pacific, for duty with the expedition to the Philippine Islands.

Captain John S Kulp, Assistant Surgeon, is relieved from duty in Department of the Columbia, and ordered to report in person to the Surgeon General of the Army for further orders.

Captains Frank R. Keefer and Paul F. Straub, Assistant Surgeons, will report to the Commanding General, Department of the Pacific, for duty with the expetition to the Philippine Islands.

Acting Assistant Surgeon George H. Penrose, U. S. Army, will proceed from Fort Douglas, Utah, to San Francisco, Cal., and report for duty with the Utah Batteries for the expedition to the Philippine Islands.

Acting Assistant Surgeon A. S. Condon, U. S. Army, will proceed from Ogden, Utah, to Fort Bayard, N. M., and report for duty.

Captain Adrian S. Polhemus, Assistant Surgeon, will proceed from Fort Wingate, N. M., to Chickamauga National Park, Ga., and report for duty with Third Army Corps.

Official List of Changes in the Medical Department U. S. Navy (Pacific Station, from May 20, 1898, to June 20, 1898.

Assistant Surgeon O. P. Smith, to the "Montauk."

Assistant Surgeon M. V. Stone, to Navy Hospital, Mare Island, Cal.

Past Assistant Surgeon J. M. Moore, detached from the "Brutus" and ordered to the Naval Hospital, Mare Island, Cal.

Past Assistant Surgeon J. M. Moore, detached from Mare Island and ordered to the "Monadnock."

Assistant Surgeon J. C. Thompson, detached from the "Monterey" and ordered to the "Brutus."

Assistant Surgeon H. E. Odell, to Naval Hospital, Mare Island, Cal.

Assistant Surgeon M. V. Stone, detached from the Naval Hospital, Mare Island, Cal., and ordered to the "Nero."